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SOME COMMENTS ON THE REGIONALIZATION OF HOSPITALS

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The basic aim of regional hospital integration is to make available a higher quality of medical care to a larger segment of society as efficiently and economically as possible. This is both an economic and an educational problem.

The Economic Problem

In general, better medical care is more expensive medical care. For example, good x-ray and laboratory personnel and facilities are expensive. Such improvements in medical care, however, can often nowadays be made largely self-supporting through insurance or private fees.

The expenses inherent in an educational program, however, cannot so readily be covered by patients' fees, for the reason that the benefits of such an educational program are intangible, indirect, and not clearly recognizable. Yet I dare say that within a given region nothing is more essential to the development and maintenance of a high quality of medical care than a continuing and serviceable educational program as it relates both to practitioners and ancillary personnel.

Advances in medicine may be of no value, or may even prove harmful, if they are not intelligently applied. They may be intelligently applied only through the medium of education. It is startling to find large sums of money being widely raised and liberally appropriated for fine buildings and expensive equipment, with little or no regard for the importance of financing an educational program to help make these buildings and their equipment maximally useful. Hospital administrators think nothing of charging patients twenty-five dollars for some x-ray films of the intestines, yet they consider it improper to charge these same patients five dollars, let us say, for an educational program for their institution which would make the roentgen examination, and everything else that is done for the patient, more meaningful and hence more useful. I rather suspect that the patient would get more in return for each dollar expended for such a program than for any other dollar he may have spent in the hospital.

It is taken for granted that the cost of medical care in a teaching hospital is higher than it is in a nonteaching hospital. It is the teaching program that is responsible for this added cost, but it is this program that is also responsible for the higher quality of medical care found. An educational program is a legitimate hospital expense and, in large part, is legitimately chargeable to patients. When insurance agencies accept this principle widely, an important step forward will have been taken in the elevation of standards of medical care.

The Educational Problem

We must maintain a wide and relevant view of the problem of medical care. The hospital administrator is likely to think of the problem in terms of efficient hospital administration; the economist, in terms of prepaid medical insurance; the trustee, in terms of building, laboratory, and x-ray facilities; the patient, in terms of the personality of his physician, and so on. In the final analysis, the problem of medical care resolves itself into providing a doctor for a patient and satisfactory facilities for that doctor, be he a

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pathologist, a public health officer, a general practitioner, or a highly specialized consultant. In order that the facilities which are provided that doctor be satisfactorily employed, the physician must, of course, be competent. The physician and the patient, or the potential patient, occupy the center of the medical picture, a fact often overlooked. The competence of the physician will be determined by a good and continuing educational program and by the physical facilities and ancillary services which can be made available to him.

A hospital may have the finest possible accounting system, but if the doctor mistakes myxedema for nephritis, the patient will die unnecessarily—his account in order, but his death nevertheless unnecessary. A hospital may have the finest x-ray equipment and the best roentgenologist, but if the local practitioner is unaware that a diaphragmatic hernia does not necessarily require radical surgery, the patient will suffer needlessly, even though he has had a good x-ray diagnosis. A hospital may have excellent laboratory facilities through which it may be found that a patient has a tumor of the spinal cord; but if the doctor does not know that he is incapable of removing the tumor, the laboratory facilities will have been more harmful than helpful. It is well to keep such considerations in mind as one gets involved in the details of regionalization. It is well also to bear in mind the close interdependence of all phases of the problem of regionalization—economic, technical, and administrative, as well as professional.

Division of Labor

I should like to comment briefly on the problem of clinical aid. In current models of national health planning there is at least an implied suggestion that certain functions and certain types of patients should be allocated to specified cooperating units. This may be impractical and hence unwise. Physicians will always resent being told just what they may or may not do in the field of medicine. For that matter, who can say that Dr. Jones in a distant crossroads village cannot do an appendectomy just as skillfully as Dr. Smith in a larger medical community?

If the general lines of the program are first set up, a division of labor based largely on public education, personal abilities, and natural tendencies will ultimately result. This will happen, however, only after the program has been operating for some time; it will not happen spontaneously at the outset.

When Mrs. Brown learns that more specialized forms of surgery or diagnostic study can be performed only in certain regional or base centers, she is likely to ask her local physician to send her to one of these centers when it becomes necessary. Moreover, it has been our experience that when the local physician comes to recognize that the district and base centers, not only do not represent a threat to his economic and professional existence, but, as adjuncts to his practice, actually serve him, he will begin to cooperate in the joint effort toward a more efficient division of labor.

One of the great initial obstacles to the regional organization of hospitals is the fear on the part of physicians that their freedom of action will somehow be limited and, particularly, that they will be required to refer certain types of patients through established channels. This feeling may be sufficiently strong to incline them to send patients elsewhere in order to demonstrate their independence. It is my belief that the referral of patients need not be considered initially. The program should ultimately be of such demonstrated value, and the working relationships so cordial, that the problem of referrals will automatically take care of itself. The centers should be stimulated to justify the confidence of the potential group of referring doctors. Having once demonstrated their value, the centers should be stimulated by the possibility of competition from other hospitals to maintain the best service and friendliest relations possible.

Continuing Education Through Hospital Teaching Programs

I have a special interest in educational programs as they affect the practitioners in the hospitals within a given region. We shall take for granted the importance of medical journals, society meetings, and postgraduate courses as educational media. I should like to discuss instead some less familiar approaches to the problem of the practitioner's continuing education.

It is probable that the highest quality of medicine in this country today is that practiced in the medical school hospital. It is more or less assumed that these high standards are directly related to the teaching programs which are such an essential part of

these hospitals. Medical teaching and medical care are intimately combined, to their mutual advantage. It is more than a coincidence that in these same hospitals are found what may be regarded as our best informed—or, if you will, our best educated—medical practitioners. Practitioners who are actively connected with medical school teaching hospitals are, in a sense, automatically exposed to continuous medical education. Ideally, therefore, if we could put all physicians into such an environment, we would largely solve the problem of the continuing education of the practitioner.

Since this ideal is obviously impossible, perhaps the next best thing is to try to create a similar teaching environment in more hospitals, and hence to supply continuing education to more physicians. It is probable that the greatest return for the effort expended in advancing the educational status of the practicing physician will come from that effort which is directed toward developing the best educational program possible in the largest number of hospitals.

Classification of Hospitals

For the purposes of a teaching program, hospitals may be said to fall into three groups as follows: (1) the medical school hospital; (2) hospitals of 200 beds or more, which might serve as district centers but which are not directly connected with a medical school; (3) hospitals containing up to 100 beds or so, including the small community hospital. Ideally, these three groups of hospitals should be contained within a coordinated educational program, the educational focus in a given region being the medical school and hospital center. This is essentially the basis of the Bingham Program at Tufts and the New England Medical Center. The teaching program in each type of hospital will, of necessity, vary considerably. In the medical school hospital the program centers in the clinical faculty, the medical students, and the house officers. In such hospitals teaching programs are well established.

Larger Hospitals Not Connected with Medical Schools

In larger hospitals not directly connected with the medical school, the effectiveness of a teaching program will depend largely on the enthusiasm and interest of a few key practitioners on the staff. Since this is such a variable factor in many hospitals, we have been experimenting for some years with what we call a "teaching resident." This resident is, in effect, a local coordinator of education who can devote full time to supervising the educational program for the house staff. An able teaching resident with a full-time radiologist, pathologist, and anesthesiologist may constitute, to all intents and purposes, a local faculty. The educational impact of this faculty is felt most directly by the house staff, but the effect inevitably spreads over into the visiting staff as well.

Grand rounds, other types of teaching rounds, clinicopathologic conferences, journal clubs, talks and clinics by visiting physicians, roentgenologic conferences — all of these can be, and are expected to be, organized for the benefit of the house staff by the small full-time group to which I have referred. These activities soon become a part of the medical life of the practicing physicians of the community. The benefits to the practitioners, to the full-time hospital group, and to the patients are obvious.

It can easily be arranged for this active nucleus in the district hospital to work directly with a medical school hospital center. With such a nucleus well established, the educational activities of local doctors can be expected to coalesce about it. It is educationally profitable to work with the practicing physicians through the medium of an educational program intended primarily for the hospital staff. The current shortage of interns, however, makes this approach increasingly difficult.

Smaller Hospitals

Such an approach is satisfactory for the larger sized hospitals, in which a teaching nucleus and an intern staff can be established. But what of the smaller hospitals and the practitioners who work in them? A really good teaching program for practitioners in small and moderate sized community hospitals may never be worked out. We must accept the fact that with few exceptions the farther removed any educational program is from the school center—that is, the farther removed in the sense of effective contacts—the less effective it will be. It is the continuous influx of students who must be taught that creates a continuing and vital teaching program, and a so-called teaching atmosphere. In hospitals not connected with the medical school, and in those without an intern staff, this important ingredient—namely, the continuous influx of students who

have to be taught—is lacking, so that a teaching atmosphere does not arise spontaneously. It must be created, and it must be constantly nurtured. This is a difficult task.

The problem of personnel

One method of attacking the problem is through short-term interns and teaching residents. The small hospitals can expect such an intern or resident for only one month, or at the most two, in the year. There are limitations to a program of this sort, but there are real advantages as well. We are at present extending our experiences with this approach. It is yet too early to judge its results.

One of our more recent, and thus far promising, efforts in regard to continued education in small community hospitals has been to employ senior residents from the medical school hospital for clinical talks. Small communities are frequently hard to reach, and they can muster at best only a few practitioners for a meeting. Under these circumstances it is not reasonable to expect teachers of repute, or even busy younger faculty members, to undertake the time-consuming trips to distant small communities. In regard to the senior resident staff the situation is different. The resident has much to gain from the experience of teaching—or of transmitting information, if you will. It is not unlikely that, through the necessary preparation of medical material for presentation to the community hospital staff, he profits more than the audience. He also benefits in no small measure from professional intercourse with practitioners in small communities. There can be no doubt of the salutary effect on the resident. But what about the staff whom he addresses? Will they accept a young and inexperienced teacher? And, more to the point, will they learn anything from him?

In the medical school hospital it is now commonplace to speak of the resident staff as an important educational stimulus. If this is true in the medical school hospital, it should certainly be true on a limited scale in a small community hospital. The resident does not come to the community hospital as an expert, but he comes to impart knowledge derived from experts, either from his own hospital or from the literature. Just as the resident may be assigned the task of reviewing the literature on some clinical topic for his own staff, so he may be assigned a similar task for the staff of a distant small hospital. In this manner, even the small hospitals can have access to a fresh and continuing source of information.

When an attempt is made to use the regular faculty for such assignments, a number of obstacles are encountered. Among them are (1) the considerable expense (residents need only be given traveling expenses); (2) the limited supply of regularly available personnel; (3) the occasional decline of interest caused by having the same person over and over again; (4) the relative waste of teaching talent. From a resident staff of moderate size, a fairly large number of small hospitals can be supplied with monthly reports on important current medical topics, and this supply can be automatic and continuous—an important practical consideration. Our experiences to date with this program have been very gratifying.

Selection of curriculum

We have been intrigued by the thought of trying to determine what might be considered the ten or twelve most important topics worthy of presentation in any given year. A curriculum of this sort is worthy of the most serious consideration by the best medical educators. The curriculum needs to be changed from time to time in order to keep the material up to date. The necessity of having to determine from year to year what new medical information is most urgently needed by practicing physicians should have a good effect not only on the practitioners but on the teachers as well, and through them on the students in the medical school and its hospital. The practicing physicians should of course take part in the selection of this curriculum, for any teaching program designed for the practitioner must be acceptable to him. The teaching material must be important, it must be desirable, and it must be fairly easy to absorb. If it does not meet all these criteria, it is relatively useless.

Possibilities for the Future

I have discussed certain features of an educational program that apply to the practicing physician. This discussion is intended only as an example of a limited approach to but one of many groups of people who are concerned with the total problem of medical care. Further extensive experimentation is necessary in programs directed toward the education of other personnel such as radiologists, anesthesiologists, nurses, hospital administrators and trustees, and so on.

The program at Tufts has been based on

the obvious fact that improved educational standards, both technical and professional, will result in improved medical care. This program has involved the close collaboration of a medical school, a number of hospitals, and groups of physicians—chiefly general practitioners.

There is a theoretically ideal situation in which these various participants are more or less arbitrarily assigned their respective roles and specifically directed into definite channels. This was essentially the method employed by the armed services. Such an organization can be maintained either through strong authoritarian control or through the emotional impact of a cause. In a free society this theoretically ideal situation could not be maintained for any length of time. The imperfections need not extend, however, to the present more or less haphazard approach to the problems involved. There is a middle ground, and it is in this area that a certain internal cohesion, based on the fact that the majority of those concerned in the program would have some selfish interest in keeping it going, can be achieved. A pretty good program which works is much better than an ideal program which does not work. We should strive for the ideal, but we should be prepared to accept the adequate.

Finally, it is important to bear in mind that the basic ingredient for a fruitful regional program is a spirit of mutual interest and trust on the part of the participants, and a desire on the part of all to work together for the common good. If this ingredient is present, all else becomes mere detail.

THE SITUATIONAL PATTERN IN CHILDHOOD INJURY

I. Data Derived from North Carolina Newspapers

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In the discussion of Segerberg and Spurling's paper on "Acute Cranio-cerebral Trauma,"[1] the statement was made that "the first step in preventive neurosurgery as it relates to head trauma should therefore be a more accurate analysis than exists today of the forces and situations by and in which these injuries occur. Such a situational study is now being conducted in my state and it is planned to publish it in the near future."

The concept is widely accepted[2] that accident control is largely a function of parents. To exercise this function, parents must be educated so that they can protect the younger child and discipline the older child. The situational patterns of grave childhood accidents show a strong and easily discernible trend toward brutal, monotonous repetition.

Since many victims of childhood accidents are not hospitalized, the pattern of many tragedies cannot be found in hospital records. For this reason, all North Carolina newspapers were surveyed for the twelve month period from July 1, 1949, through June 30, 1950, in order to discover the descriptive pattern of all accidents involving children through the age of 15. Subscriptions to clipping bureaus and newspapers, and the aid of the Duke Public Relations Bureau, were utilized in assembling this mass of published data—data that can only show a statistical trend.

A second study will report the situational pattern associated with head injuries during the past five years in children who survived long enough to be admitted to the Duke Hospital.

Table 1

Deaths and Injuries from Childhood Accidents in N. C. — July, 1949 through June, 1950

Month	No. Children	No. Boys	No. Girls	No. Deaths	No. Injuries
July	60	41	19	32	28
August	74	57	17	53	21
September	32	26	6	20	12
October	65	44	21	31	34
November	46	32	14	17	29
December	48	23	25	27	21
January	35	22	13	13	22
February	47	33	14	17	30
March	40	26	14	19	21
April	37	16	21	18	19
May	33	13	20	23	10
June	35	30	5	24	11
Total	**552**	**363**	**189**	**294**	**258**

Table 2

Causes of Deaths*

	No. Deaths
Motor vehicle	134
Drowning	46
Burns	46
Bicycle	21
Suffocation	13
Guns	12
Electrocution	6
Hanging	4
Train	4
Crushing	4
Poisoning	2
Explosion	1
Fall	1
Total	**294**

* Fireworks and homicidal attempts were each responsible for two injuries, though no deaths resulted from these causes.

From the Division of Neurosurgery, the Duke Hospital and Medical School, Durham, North Carolina.

Table 3

Analysis of Injuries Due to Motor Vehicle Accidents

Type of Vehicle

	No. Injuries
Automobile	235
Truck	45
School bus	37
Bus	4
Motorcycle	4
Tractor	2
Total	**327**

Classification of Accident

Automobile-pedestrian	161
Automobile alone	37
Automobile-automobile	33
Automobile-motorcycle	2
Automobile-tractor	1
Automobile-bus	1
Truck-pedestrian	30
Truck alone	10
Truck-automobile	5
School bus alone	33
School bus—pedestrian	1
School bus—automobile	1
School bus—truck	1
School bus—truck-pedestrian	1
Motorcycle alone	3
Motorcycle-pedestrian	1
Bus-pedestrian	2
Bus-truck	2
Tractor alone	2
Total	**327**

Type of Injury

Head injury	95
Other injuries	107
Killed instantly	82
Not known	43
Total	**327**

Mode of Accident

Major patterns		
Running in front of vehicle	92	
Collision of vehicles	68	
Running behind parked car	34	
Vehicle out of control	34	
Running into side of vehicle	19	
Fall from moving car	16	
Hit by backing vehicle	7	
Recorded as "struck by vehicle"	19	
Not known	19	
		308
Miscellaneous accidents		
Truck ran on sidewalk	2	
Fell off fender	2	
Car ran into yard	1	
Truck turning around in yard	1	
Sitting in front of car	1	
Sitting on bumper of car	1	
Playing in front of car	1	
Truck chain dragged child into wheel	1	
Fell off vehicle, run over	1	
Fell off tricycle, struck by car	1	
Pinned between fenders	1	
In barrel, struck by vehicle	1	
Struck by swinging door of vehicle	1	
Playing with controls of tractor	1	
Fell from tractor, run over by wheel	1	
Struck by passenger in other vehicle	1	
Defective vision in child	1	
		19
Total		**327**

Table 4

Analysis of Injuries Due to Bicycle Accidents

Cause

	No. Injuries
Automobile	33
Truck	3
Fall from bicycle	3
Bus	1
Not known	3
Total	**43**

Type of Injury

Head injury	17
Other injuries	9
Killed instantly	9
Not known	8
Total	**43**

Mode of Accident

Collided with vehicle	7
Riding on right side, made left turn	7
"Struck by vehicle"	5
Fell from bicycle	3
Riding on left side, collision	2
Rode out of driveway in front of car	2
Crossed stop-light, struck by vehicle	2
Crossed in front of car	1
Riding without a tail light	1
Riding on left side of road with no light	1
Unknown	12
Total	**43**

Table 5

Analysis of Deaths Due to Drowning

Place

	No. Deaths
River	15
Lake	12
Creek	9
Swimming Pool	3
Ditch	2
Home lily pond	1
Sound	1
Not known	3
Total	**46**

Mode of Accident

Boat overturned	8
Walked into deep water	7
Fell out of boat	5
Swimming	4
Found in swimming pool	3
Wading	2
Dived from dock	2
Dived from bridge	1
Attempted to cross flooded creek	1
Knocked from trestle by train	1
Fell into ditch	1
Fell into home lily pond	1
Fell from foot bridge	1
Fell from river wiring cable	1
Not known	8
Total	**46**

Table 6

Analysis of Accidents Involving Firearms

Type of Weapon	No. Injuries
Rifle	10
Pistol	5
Shot gun	4
Air rifle	2
.45 cal. bullet	1
Unknown	3
Total	**25**

Types of Injury	
Head injury	3
Other injuries	19
Not known	3
Total	**25**

Mode of Accident	
Shot by companion	8
Found weapon in home	2
Hammered bullet	1
Children fighting over loaded weapon	1
Older person cleaning "unloaded" gun	1
Duel or fight with playmate	1
Loaded gun fell over and discharged	1
Target practice	1
Shooting at rats	1
Shot by father	1
Shot self accidentally	1
Fell and shot self while hunting	1
Suicide	1
Unknown	4
Total	**25**

Table 7

Analysis of Deaths and Injuries Due to Burns

Mode of Accident	No. Cases
Left alone in home	21
Kerosene poured in stove; house burned	8
House burned	7
Oil stove exploded; house burned	3
Trailer burned	2
Clothes ignited from fireplace	3
Clothes ignited from trash fire	1
Clothes ignited from open heater	1
Clothes ignited from dump fire	1
Clothes ignited from grass fire	1
Children dropped match in gas tank	3
Can or tank of gasoline ignited	2
Playing with matches	1
Threw insect fluid in fire	1
Lighted kerosene rag thrown on child	1
Fell into scalding water	1
Playing with chemicals	1
Unknown	1
Total	**59**

Table 8

Analysis of Deaths Due to Suffocation

Mode of Accident	
Found in bed ?	4
Found between bed and wall	3
Caught between sofa and trailer wall	1
Caught between slats of crib	1
Bed clothes over head	1
Choked on toy balloon	1
Peanut in lung	1
Buried by mother	1
Total	**13**

Table 9

Analysis of Accidents Due to Miscellaneous Causes

Type of Injury	No. Cases
Head injury	7
Other injuries	16
Killed instantly	15
Total	**38**

Type of Accident		
Falls		
From school swing	1	
From truck	1	
From porch	1	
From second story window	1	
Into well	1	
Bumped heads	1	
		6
Hanging		
Head caught between bed slats	2	
Stood on chair, reached chain	1	
Playing cowboy, fell from tree	1	
		4
Poisoning		
Ate high blood pressure tablets	1	
Left in closed car (carbon monoxide gas)	1	
		2
Crushing		
Crushed in falling building	2	
Crushed by falling tree	1	
Crushed by ice box	1	
Crushed by falling wall	1	
		5
Electrocution		
Grasped live wire hanging from power pole	1	
Placed finger in light bulb socket	1	
Made contact with guy wire; secondary contact with power line	1	
Cable broke over tower line and touched child	1	
Flying copper kite; wire came in contact with power line	1	
Playing electric target game in wet suit	1	
Touched electric fence; bare feet on wet ground	1	
		7
Explosion—Playing with "dead" shell		2
Train		
Grade crossing accident	5	
Truck stalled on tracks	1	
Car stalled on tracks	1	
Playing on tracks	1	
		8
Fireworks		
Playing with fireworks bomb	1	
Playing with mercury cap	1	
		2
Homicidal attempt—Beaten by parent		2
Total		**38**

Comment

The data revealed by this survey of newspaper reports on childhood accidents occurring in North Carolina during 1949 and 1950 apparently indicate a real statistical trend. This statement is confirmed by the fact that the three most common types of accidental injury reported herein correspond to the three leading causes of fatalities among the 14,000 children who met accidental deaths in the United States in 1947[2]. On the other hand, fatal or near-fatal falls, which represent the fifth most common cause of accidental deaths in children on a nationwide scale, did not appear to command attention in newspapers. The situational pattern of injuries received from falls, and perhaps other types of injuries, will be discussed in the second report of this series.

Seasonal incidence of childhood accidents

The seasonal incidence of accidental deaths and injuries is portrayed in figure 1. The graphs indicate that the preponderance of accidental injuries occur during out-of-school months. As is to be expected, accidents leading to burns and drownings show a strong seasonal incidence.

Relation of age to the type of accident

Briesen's survey[3] showed that the highest incidence of head injuries due to auto-pedestrian accidents occurred at the age of 6; of those due to auto-bicycle accidents, between the ages of 11 and 15; and of those due to falls, below the age of 16. According to the data presented in the present report, 32 out of 327 children killed or injured in vehicular accidents were 2 years of age or under. Children in this age group were among the victims of automobile collisions. They and slightly older children opened car doors and fell into the highway. Children in this age group were crushed by cars backing out of garages and down driveways. They sat on fenders and mudguards, or played around standing cars that were put in motion by unobservant drivers.

The children involved in bicycle accidents were in an older age group; only 11 out of 43 were below the age of 10, and only 1 child (aged 4) was less than 5. Most victims of drowning were likewise in this older age group. Young children, including those under 5, however, were left unprotected in boats or fell into shallow water such as ditch water or home lily ponds. Children in the younger age group were the major victims of burns; 44 out of the 59 children who suffered burns were 5 years old or younger.

Recurrent situations in accident picture

The situational pattern of various injuries is described in the tables, and the recurring circumstances are readily apparent. Children run in front of vehicles from behind parked cars, and dash into the sides of vehicles. They are the victims of collisions and are in overturning vehicles. They play around vehicles, and are injured by inattentive drivers. Children ride bicycles on the right side of the road and turn left into vehicles coming from behind. They are allowed to use lethal weapons without training, and to play in the home with loaded guns. They are left alone in homes that burn, or are allowed to play around open fires in the home and outdoors. They may be left unprotected in boats or allowed to play near deep or shallow water.

Bowden[4] has commented upon the fact that death by smothering is used as a diagnostic wastebasket; however, small children falling between the bed and the wall succumb to a real form of accidental injury. Finally, the play instincts of small children lead them into devious patterns of accidental injury that can scarcely be foreseen. Some of these are shown in table 9.

Head injuries

The relationship between the patterns of accidental injury and head injuries will be discussed in the second report of this series. Among the 552 accidents included in the present analysis 122 head injuries were reported, and at least 106 injuries were so immediately grave that the children were reported as being killed instantly. Head injuries were reported most frequently in accidents involving motor vehicles and bicycles.

Conclusions

Situational patterns of accidental injury in North Carolina recur with tragic frequency. The causes of death in this survey correspond closely with those noted in national statistics.

Hospital surveys are indicated for the study of specialized injuries. Such surveys, including follow-up studies, are necessary to reveal the potential crippling effects of injuries in children who survive. A second report, based on Duke Hospital records, will present these aspects of childhood accidents as they concern head injury.

The education of parents to the situations commonly leading to childhood accidents may be one means of reducing these appalling statistics.

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FROM LAISSEZ FAIRE TO REGIMENTATION AND BACK AGAIN: THE PEDIATRIC PENDULUM

FRANK HOWARD RICHARDSON, M.D., F.A.C.P., F.A.A.P.

BLACK MOUNTAIN

The pediatrician is a very modest fellow. The only achievements he claims on behalf of his specialty—one of the youngest of them all—is popularizing the periodic preventive health examination, purifying the country's milk supply through the pioneering efforts of medical milk commissions, and reducing a previously high infant mortality rate through the promotion of breast feeding and simplified methods of artificial feeding.

Far be it from me to detract from the achievements of my chosen specialty. Even our most ardent admirers (if we have any outside our own ranks) must concede, however, that pediatricians have one rather serious fault—a proneness to follow the latest medical fashions and fads. Our desire to be right up to the minute in medical, and especially in pediatric, theories and practices sometimes makes us forget the wisdom of the old admonition:

> Be not the first by whom the new is tried
> Nor yet the last to lay the old aside.

Evidence of this failing can be found by reviewing pediatric attitudes — historic as well as current—with regard to three problems of child management that consume so much of the time, not only of the pediatrician, but of the general practitioner, who deals so extensively with children. These problems have to do with (1) *eating*, (2) *elimination*, and (3), though somewhat less important than the first two—*thumb-sucking*. It may help in our discussion if we take up these three in order. I will use these topics in proving my contention—which is that within the limits of my professional life I have seen the pendulum swing in pediatrics from a policy of *laissez faire*—do as you like—to one of absolute regimentation, and then back again. Moreover, the swing from one extreme to another has been accomplished without so much as a moment's pause at the center point—the golden mean.

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Grandma's Day

Near the end of the first decade of this century, when I was serving my medical apprenticeship, we were just emerging from what all respectable pediatricians honestly believed and fervently maintained were the dark ages of child management or, as we considered it, child neglect. Those were the days when it was neither the doctor nor the mother, but Grandma who knew best.

Feeding: Grandma fed the baby whenever he cried. She gave him as much as he wanted or as little as he liked, and she gave it to him just about whenever he pleased. If that didn't quiet him—and quite frequently it didn't—she was sure that he had colic, and dosed him at her own sweet will with catnip, camomile, or fennel tea, followed by "a course" of calomel and a "good" dose of castor oil.

When it came to *elimination*, the baby was expected to soil his triangulars (the "hospital square" was just coming into vogue) whenever and wherever he pleased, with apologies neither offered nor expected, up to the age of 2, or even 3 years. As Grandma said, he was only a baby—what more could you expect?

As for *thumb-sucking*, not only did Grandma never reprove him for this habit; she even aided and abetted him in it by thrusting his none too clean digit into his mouth to still his cries. Worse still, in the scandalized opinion of the sanitary-minded young physician, she actually popped a "pacifier" (anglicé sugar tit) into his mouth, first making it fast with a long string tied to his high chair or crib, so that

> When hunger called or anger,
> 'Twas never wanting there.

Day of Reform

All three of these evil practices were roundly condemned by the early pioneers in the art of pediatrics who were then introducing the youngest of the specialties into our medical schools. Not only did we reprobate

them in no uncertain terms; we entered the lists and manfully battled against them—and against Grandma, too. It was a real battle, but in those days we knew—or thought we knew—all the answers. Just how did we proceed in our crusade?

Regulated feeding

We offered the baby his bottle, with its mathematically calculated percentages of protein, carbohydrate, and fat, every two, three, or four hours, precisely on schedule, as determined by the particular pediatric professor who was the source of all our knowledge. Furthermore, we insisted that the baby take every ounce we ordered, no matter how reluctant he might be to empty his bottle. Nor was he ever to be permitted a single drop more than the prescribed amount, even though Grandma "just knew" that he was still hungry. It was now the doctor, and no longer Grandma, who knew best in this period of reaction against the earlier policy of *laissez faire.*

It was not until Marriott slipped in the suggestion, as a quite minor detail of his instructions for simplifying bottle feeding by the use of evaporated milk, that the baby be allowed to take as little or as much as he wished, that some of us lesser fry dared to admit that we had been following this very unorthodox practice for years.

Regulated elimination

Coming to the subject of elimination, what a dissertation could be written (and frequently was!) about the various colors and shades of stools that we interns and residents collected so faithfully and discussed so masterfully! At least we refrained, even in those days of strict medical regimentation, from interfering with the young baby's right to evacuate whenever he chose; but with the toddler it was a different story.

We insisted that every runabout child have one movement per day, preferably in the morning, whether he wanted to or not. There was something immensely satisfying to us—and even more gratifying to the young mothers who hung on our words—in what we and they described unctuously as a "good" movement. Constipation was a bugbear to be shunned like the plague. We refused to admit that a child who had failed to have his movement one morning might surprise everyone by having a perfectly normal one at the end of forty-eight, or even seventy-two hours (if he were allowed to wait that long), even though he frequently did! A child was praised inordinately for having a "good" movement, while mothers were plunged into gloom when the daily evacuation failed to take place on time.

The battle against thumb-sucking

Above all, we battled against thumb-sucking and, horror of horrors, the pacifier or sugar tit. Pediatric and dental authorities were unanimous in their condemnation, and bibliographic references on the evil effects of thumb-sucking abounded. I shall never forget my amazement when, in 1909, I saw the respected old Viennese pediatrician at whose feet I was sitting to hear the latest advances in pediatrics reach for a pacifier and pop it into the mouth of a youngster whose wails were disturbing his demonstration. The rest of that day's instruction was a total blank so far as I was concerned. I was convinced that *der guter Herr Professor* could not be up-to-date in other things when he was such an old woman as to resort to this archaic childhood indulgence.

In those days we employed the most ingenious devices to counteract what we *knew* was the reprehensible desire to suck. Elbow splints that prevented the child from bending his elbow and putting his thumb in his mouth —at the risk of producing a stiff elbow; adhesive plaster wound round the offending thumb—disgusting as that became after a few hours *in situ;* applications of quinine solution — though before long the baby learned to take the bitter with the sweet and lick it off; a complicated maze of metal rings draped around the thumb—all these were tried, and usually found wanting. The meanest trick I ever saw played consisted in strapping a short piece of rubber tubing along the length of the thumb in order to introduce a mouthful of air and so spoil the solid satisfaction of sucking that every smoker understands and enjoys so thoroughly.

The Pendulum Swings Back

But time marches on, and, without stopping at any intermediate point in the quadrant, we have ridden the pediatric pendulum back to the other extreme of the arc. What now are the proper procedures with regard to feeding, elimination and thumb-sucking?

"Demand" feeding

Instead of the regular two, three, or four hour feedings, gradually merging into three

meals a day, some authorities are now advocating the same practice that Grandma was condemned for following — only now it is given the dignified name, "demand," or "self demand" feeding. The baby is to be offered a feeding every time he "demands" it by crying—although it is quite possible that he may be crying for some of the many other reasons that make babies cry. What this constant attendance upon the baby's whims may do to the long-suffering mother's rest and sleep is not considered. While many of us had long since relaxed our rigid insistence upon a fixed amount of food at a given time, this complete abandonment of any schedule whatever, letting the chips (and the mothers) fall where they may, is an example of extremism that should receive careful study before it is accepted.

"Natural" elimination

The current attitude toward feeding, however, is nothing compared to the way we are now urged to toss aside all attempts at what the advertisers delicately allude to as "regularity." We are assured that it frustrates a baby to be held to any elimination schedule whatsoever; that in order to grow up completely normal and uninhibited he must be permitted to evacuate any time he feels like it. A well pinned diaper is relied upon to protect the rest of the family, the furniture and the floor. The fact that the diaper may fail to protect the baby's buttocks from excoriation is not to be taken seriously, we are assured.

One thought occurs to the unprejudiced pediatrician: At what time *should* we begin to try to get the baby into the habit of daily evacuation such as almost all physicians recommend, even today, for older children and adults? Should we start when the child is 2 or 3 years old, or wait until he is still older? When do regular habits of elimination cease to frustrate, and become salutary and desirable? Ultra-modern pediatrics is silent on this point—at least I have found no specific answer to the question.

Uninhibited thumb-sucking

Our condemnation of thumb-sucking was so whole-souled, so assured, so unanimous, that any doctor who ten years ago had had the temerity to endorse, much less encourage, the practice would have been laughed to scorn. Yet within these few short years the pendulum has swung back in regard to thumb-sucking as it has in the other two instances. It is now stated categorically that the denial of thumb-sucking spells frustration, and that virtually every personality defect can be traced back to the time when the youngster was denied the divine right of suction, whether upon breast, rubber nipple, thumb, or—at last coming back into its own —the medically abhorred sugar tit. It is not difficult to document this statement with imposing references to current literature.

Justification for Change

An interesting point in all this discussion is that there was real justification for each of these complete about-faces. Grandma and her generation *were* overindulgent in their attitude toward each of these three childhood functions. Hit-or-miss methods of feeding, with frequent recourse to anticolic "yarbs"; neglect of bowel training, punctuated by unjustified dosing with calomel and castor oil; toleration of full-time sucking of anything within the baby's reach—all were medically indefensible. Pediatricians were justified in recoiling, although they can hardly be excused for the extremes to which they were carried. Their despotic insistence upon absolute adherence to prescribed rules and formulas simply gave the nod to the orgy of self determination that today threatens to make pediatrics more than slightly ridiculous in the eyes of both physicians and laymen.

The Middle Ground

Somewhere between these two extremes, however, lies a middle ground. Can't we find it, instead of swinging back and forth, pendulumwise, every generation or two? If so, perhaps we can make real progress in these three phases of child management, and stop going round in a circle that leads to no fair goal.

I would like now to outline what I believe is a better way. I give it in detail not because I think it is the only way, but because it represents one man's attempt to be reasonable and fair with mothers. For the last time I will use the headings *feeding*, *elimination*, and *thumb-sucking* in developing my thesis—which is that common sense and moderation are just as commendable and as possible in pediatrics as in any other branch of medicine, or in life itself.

Feeding

Feedings need be neither hit-or-miss, nor yet mathematically computed. The quantity

to be allowed at a feeding can be left to the infant's own appetite. Since we have no means of accurately determining the loss of heat and fluid through the various emunctories, not even a "bomb calorimeter" would enable us to prescribe exactly, whereas the baby himself has a far more satisfactory self-adjusting gauge—his appetite.

Like any other scientific gauge, however, appetite ceases to be reliable when it is tampered with. If anyone doubts that it can be tampered with, let him take a sundae, or a cup of chocolate with a slice of layer cake, half an hour before his next meal. The infant's appetite is similarly upset when he has a nipple thrust into his mouth every time he cries, whether he is hungry or not.

It is noticeable that if the baby is started on "demand" feeding, he soon regulates his own schedule and adheres to it pretty faithfully thereafter, allowing leeway of perhaps a half hour or so. I believe that I save the mother a rather trying period of waiting, however, when I suggest that, until her child establishes his own routine, she employ a three or four hours interval, as the baby's wants suggest. He is quite as ready to accommodate himself to such a routine as the rest of the family are to their three meals a day schedule.

Elimination

My feeling is that, whereas it is negligent and unsanitary to allow a child to soil his diapers at all hours of the day and night any longer than necessary, we formerly encouraged the mother to place undue emphasis on the importance of the daily movement. I have found it easy to establish regular stool habits quite early, if the relative *un*importance of the matter is explained to the mother.

I like to start what I call "stool training," if the mother agrees to try it, before the end of the child's first month. Immediately after each of the three daily feedings, the mother inserts a piece of soap the size of her little finger into the baby's rectum, and immediately afterwards places a so-called "lap chamber" against his buttocks, as he lies on his back on her lap. Within a few days the soap stick can usually be dispensed with, the pressure of the chamber against the buttocks being sufficient to stimulate the movement. The mother is taught not to take the matter too seriously. If the baby refuses to cooperate, she may give up the attempt at any time.

I find that this method, while by no means universally successful, works in the majority of instances. As the child gets older, the procedure changes to a twice-a-day routine which becomes his permanent habit, thus effectively forestalling constipation. Though I cannot claim that all babies thus trained are free from frustration, I have never had any reason to believe that they were any more neurotic than youngsters who are allowed to soil themselves, with no attempt at regulation, until they are old enough to be ashamed.

Thumb-sucking

I readily admit that our earlier fulminations against thumb-sucking, and the orthodontal difficulties it might produce, were too extreme. Yet it is not difficult to imagine the effects of the leverage produced on the infant's superior and inferior maxillae when the forearm acts as the long arm of the lever, the thumb or finger as the short arm, and the front of the lower jaw as the fulcrum. Furthermore, it is impossible to sterilize the pacifier effectively, or the thumb at all.

Nevertheless, we have all seen thumb-sucking infants who grew up to have beautifully regular teeth; and, since we pediatricians have at least partially cleaned up America's milk supply, colitis has become increasingly rare, despite continuation of the unsanitary habit of thumb-sucking. Our reluctance to admit these facts made us responsible for one of the most common household tragedies of yesterday, and even of today—namely, the *increase* of thumb-sucking, caused by the nervous nagging of parents whose efforts to break the child of his habit simply confirmed it, and kept him from curing himself.

I prefer the golden mean in this instance as in the other two. For years I have tried to convince worried parents that they were doing far more harm than good when they nagged or resorted to the various gadgets that have made life miserable for so many children. On the other hand, I firmly believe that the dentists and orthodontists are on firm ground when they warn us that thumb-sucking, while not the sole cause of mal-occlusion and other oral deformities, is a potent factor in the etiology of many of them. I am frank to say, therefore, that I strongly oppose what I consider an unnecessary, unhygienic, and often harmful indulgence. I

do what I can, short of emotional harm to the child, to help him discontinue the habit. Better still, I do my best to keep him from starting it in the first place.

I suggest that the mother gently remove the thumb or finger from the baby's mouth when he first begins placing it there after a feeding or when he is going to sleep—always cautioning her against agonized admonitions and irritated handslappings. If the habit has become fairly well established, I do not hesitate to advise a simple elbow cuff extemporized from a cereal box. It should be loose enough to permit the elbow to bend, but not enough to allow the hand to be brought to the mouth. This device should be used only as the mother finds necessary, and always as a help, not a punishment.

These simple measures may be expected to fail, of course, if the child has resorted to the habit out of loneliness, neglect, boredom, jealousy, unhappiness, or from some other cause. In that case, the cause should be removed and the habit given a chance to disappear spontaneously. After that has been done, I believe that it is perfectly justifiable, and sometimes really necessary, to give the additional help I have suggested. The child sometimes needs reinforcement in breaking a habit that has become almost mechanical. In fact, he may even welcome a little reminder that carries no stigma of reproach or punishment that he can resent.

Summary

Pediatrics has gone from the extreme of untrammeled license to the opposite extreme of meticulous regimentation. Finally, it has swung back to the starting point.

I believe that the best course lies somewhere between these two extremes, and offer a possible solution. I urge every pediatrician and family physician who deals with children to chart a sensible course for his patients and their mothers, relying on his own good sense and experience rather than on the latest pediatric fads and fashions.

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THE ASSOCIATION OF MIGRATORY THROMBOPHLEBITIS WITH CARCINOMA

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The fact that a relationship exists between visceral carcinoma and multiple thrombophlebitis was recognized as long ago as 1861. Too little emphasis has been given to this relationship, however, and it is still not common knowledge.

The earliest recorded recognition of the relationship between multiple venous thrombosis and carcinoma is credited to Trousseau[1], who said:

"When you are undecided about the nature of a disease of the stomach—when you hesitate between a chronic gastritis—a simple ulcer and a carcinoma, a phlegmasia alba dolens occurring in the leg or arm will put an end to your indecision and you will be able to assert positively that a carcinoma is present. I have shown you analagous cases in my wards and I have asked you to notice that this obliterative phlebitis did not pertain exclusively to carcinoma of the stomach and that it might occur with cancer affecting any internal organ whatsoever."

Incidence and Characteristics

Apparently very little was written on this subject until the 1930's, when reports began to appear[2]. Interest then dwindled, and it has only been recently that more articles on this subject have been published[3]. To date, 56 cases of multiple thrombophlebitis associated with visceral carcinoma, including the 4 reported here, have been recorded (table 1). In table 2 the cases are classified according to the primary sites of carcinoma.

In 1938, Sproul[3a] analyzed 4,258 autopsies performed on patients with carcinoma, and found that multiple thrombosis was present in 31.3 per cent of the cases of carcinoma of the body or tail of the pancreas. With lesions of the head of the pancreas, the incidence of multiple thrombophlebitis was 9.7 per cent; of the lung, 2.5 per cent; and of the stomach, 1.3 per cent. Kenney[3b], in 1943, reached similar conclusions on the basis of a smaller

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Table 1
Reported cases of Multiple Thrombophlebitis Associated with Visceral Carcinoma

Author	Date	No. Cases	Primary Site of Carcinoma
Osler & McRae[2a]	1900	1	Stomach
Winter[2b]	1931	1	Pancreas
Thoenes[2c]	1932	3	Pancreas
Smith[2d]	1932	1	Pancreas or stomach
Umlauft[2e]	1933	3	Body of pancreas (2) Lung (1)
Moser[2f]	1933	1	Stomach
James & Matheson[2g]	1935	3	Lung (1) Stomach (2)
Warner & Dauphinee[2h]	1936	1	Lung
Sproul[3a]	1938	12	Body or tail of pancreas (5) Head of pancreas (3) Lung (2) Stomach (2)
Kenny[3b]	1943	9	Body or tail of pancreas (9)
Cooper & Barker[3c]	1944	4	Body or tail of pancreas (1) Lung (1) Gallbladder (1) Undetermined (1)
Case Record, Mass. Gen. Hosp.[3d]	1947	1	Body of pancreas
Stahl and Stephan[3e]	1947	3	Lung (1) Pancreas (1) Stomach (1)
Jennings and Russell[3f]	1948	2	Body and tail of pancreas
Baum, Baum, and Hermann[3g]	1948	1	Stomach
Edwards[3h]	1949	6	Body or tail of pancreas (4) Stomach (1) Gallbladder (1)
Gross, Jaehning, and Coker	1951	4	Lung (2) Stomach (1) Undetermined (1)

series of cases. It is evident that a definite relationship exists between these two conditions, especially when the body or tail of the pancreas is the primary site of carcinoma.

Thrombophlebitis associated with visceral carcinoma is apparently not the same as that which ocurs in the cachectic state, nor are the veins invaded or surrounded by tumor tissue. This migratory thrombophlebitis may involve any vein—large or small, deep or superficial—in the trunk, extremities, or viscera. It is manifested by the appearance of classical signs of thrombophlebitis which may affect any number of venous segments, and which tends to persist and recrudesce.

Individuals who have this syndrome are apt to be in the older age group and may or may not present other symptoms. This syndrome may be suspected when thrombosis of a single vein occurs; but if migration does not take place in several weeks, this diagnosis is unlikely.

Illustrative Cases

Case 1

A 55 year old white man entered the North Carolina Baptist Hospital with the chief complaint of cough and fever. He stated that he had been in excellent health until three months prior to admission, when cough and malaise first developed. A month later, the cough increased in severity, and bilateral chest pain appeared. Treatment with penicillin and streptomycin produced slight improvement, but the patient began having soreness in the right thigh and both legs. About two weeks prior to admission, migratory pains appeared in his ankles, legs, thighs, knees, hands, forearms, and elbows. These were accompanied by swelling, pain, and redness. The cough became more severe, and he began bringing up about one cupful of mucoid sputum a day. No history of hemoptysis was obtained.

On physical examination the blood pressure was found to be 120 systolic and 80 diastolic, the pulse 130, the temperature 101.2 F, respiration 25. Pitting edema and evidence of thrombophlebitis were noted in all his extremities at one time or another during his hospital stay. A few rales were heard in both lung bases, which were dull to percussion. Examination of the heart revealed a gallop rhythm and tachycardia. The liver edge was felt 2 cm. below the right costal margin; no other abdominal masses were palpated.

A chest film revealed emphysema, non-specific pneumonitis, and moderate cardiac enlargement. A rather severe anemia developed while the patient was in the hospital, the hemoglobin falling from 11.0 to 7.7 Gm., and the white cell count ranged from 10,000 to 40,000. The nonprotein nitrogen rose from 33 to 96 mg. per 100 cc.

In spite of anticoagulant therapy and elastic

Table 2

Primary Sites of Visceral Carcinoma Associated with Multiple Thrombophlebitis, in order of Frequency

Site	No. Cases
Pancreas	33
Body or tail	24
Head	3
Unspecified	6*
Lung	9
Stomach	10†
Gallbladder	2
Undetermined	2
Total	56

*Including Smith's case[2d]
†Not including Smith's case[2d]

bandages, the thrombophlebitis continued, and gangrene of the left foot developed. Priapism followed thrombosis of the dorsal vein of the penis. The patient became progressively worse, and expired on the nineteenth hospital day. The clinical impression was that he had migratory thrombophlebitis associated with a visceral carcinoma, probably in the lung or pancreas.

Autopsy disclosed moderately advanced carcinomatosis with involvement of both lung fields, the liver, the hilar lymph nodes, the mediastinum, the adrenal glands, and the brain. Microscopical examination showed the tumor to be an adenocarcinoma which contained a moderate amount of mucin. It was the pathologist's opinion that the primary site was the lung. Thrombophlebitis was found in the prostatic veins. There were infarcts of the lungs and spleen, and gangrene of the left foot. Sections of the iliac and other arteries were made but no arterial lesions were demonstrated.

Case 2

About one year prior to admission, a 55 year old white man noted swelling of the right arm. Biopsy of a right axillary node revealed metastatic adenocarcinoma. His course was slowly downhill, his only symptoms being dyspnea, weakness, and a weight loss of 50 pounds. Two months prior to admission, he began having migratory pain, tenderness, redness, and swelling of all his extremities.

Physical examination revealed a blood pressure of 130 systolic and 90 diastolic. The temperature was 100.2 F, the pulse 110, and respiration 28. The superficial veins of the chest and abdomen were prominent. There were discrete, non-tender nodes in both axillary and cervical regions. The right shoulder and anterior surface of the upper chest were red, warm, and tender. The heart was slightly enlarged to the left. Fine, moist rales were heard in both lung bases. The liver edge was felt 3 cm. below the right costal margin. Edema of all extremities and early gangrene of the left foot were present.

The laboratory studies were not remarkable, except for the finding of moderate anemia.

The patient died less than seventy-two hours after admission. Autopsy showed widespread thrombosis of both large and small veins and arteries, especially in the lungs. Microscopically, active recanalization was seen in numerous thrombosed vessels. Arterial lesions of the extremities were not demonstrated.

There was marked carcinomatosis, with involvement of the left adrenal and of the skin, pericardium, pleurae, peritoneum, trachea, bronchioles, lungs, myocardium, diaphragm, liver, peripancreatic tissue, gallbladder, esophagus, colon, mesentery, ribs, vertebral marrow, meninges, and lymph nodes.

The tumor was an extremely malignant adenocarcinoma in which mucin was occasionally present in small amounts. It was felt that the tumor arose from a bronchiole, but because of the widespread metastases it was impossible to be certain of its origin.

Case 3

A physician's wife, aged 77, had phlegmasia alba dolens in the right leg at the age of 37, after childbirth. This was followed by recurrent episodes of "phlebitis" in the leg over a period of years. About one year prior to admission she first noticed that her left leg was painful, tender, red, warm, and swollen. A few days later, the process involved her upper extremities in a migratory fashion. Since that time she had had repeated episodes of migratory thrombophlebitis, which usually lasted ten days to two weeks. Until four months prior to admission her only other symptom was weakness. At that time, however, she began having moderately progressive nausea and vomiting. She had lost about 30 pounds in weight during the year prior to admission. There was no history of hematemesis, melena, or jaundice. Because of an associated anemia, she had been given iron, liver and blood transfusions.

Physical examination revealed the blood pressure to be 140 systolic, 85 diastolic, the temperature 98.8 F, pulse 96, and respirations 20. Except for the finding of a mild phlebitis of the right forearm, physical examination was not remarkable. The blood count showed an anemia, with a hemoglobin of 8.5 Gm. and a red cell count of 3,210,000. Otherwise, laboratory studies were not significant.

Shortly after admission the patient's thrombophlebitis flared up, but subsided after ice packs were applied locally. Barium study revealed a filling defect of the stomach, a hiatal hernia, and a duodenal diverticulum.

The patient was subjected to an abdominal operation, which disclosed a nodular mass involving the terminal two thirds of the stomach. This mass was fixed to the pancreas and was friable. No hepatic involvement was seen. A gastrojejunostomy was done, and one month after operation, the patient was getting along relatively well.

Case 4

A 34 year old white man was in good health until eight weeks prior to admission, when he began noticing recurrent migratory pains in his legs, back, and shoulders. These were moderately progressive and were associated with malaise. Four weeks prior to admission he began having fever, and a frank thrombophlebitis of his right leg developed. This progressed until gangrene of the right foot appeared, and he was admitted to this hospital.

The past history revealed that sixteen years previously, following a fracture of the pelvis, varicose veins developed in the right leg. These were later treated by venous ligation.

On physical examination, the blood pressure was 150 systolic, 90 diastolic, the temperature 101 F. pulse 120, respiration 20 per minute. The right leg was tender, hot, edematous, and purple. The right foot and ankle were cold up to a point midway on the calf. A large bullous lesion was present on the ankle. The arterial pulses were not felt in the right leg or foot, but could be felt in the other extremities. There was thrombophlebitis of the thoracoepigastric veins on the right, with edema of the right chest. Expansion of the thorax was decreased on the right, and there was diminution of the breath

sounds on that side. No rales were heard. The remainder of the physical examination was not remarkable.

Laboratory studies revealed the hemoglobin to be 9.5 Gm., the red cell count 3,720,000, the sedimentation rate 28 mm. per hour, and the white cell count 13,300, with a normal differential. The nonprotein nitrogen was 62 mg. per 100 cc., and the remainder of the laboratory data were within normal limits. Roentgen studies revealed pneumonitis of the left upper lung field, right pleural thickening, elevation of the right diaphragm, a questionable soft tissue shadow in the right superior mediastinum, and osteolytic lesions in several ribs and vertebral bodies.

The thrombophlebitis progressed, involving the left leg as well as the upper extremities, where the thrombosed veins could be easily palpated after twenty days. The gangrene of the right leg also progressed, in spite of anticoagulant therapy and the applications of ice packs to the leg.

Biopsy of one of the rib lesions revealed metastatic adenocarcinoma. The patient is living, though moribund, at the time of this writing, and the primary site is not known.

Etiology

The occurrence of venous thrombosis in the vicinity of a carcinomatous organ which encroaches on the vein is readily understandable, but the etiology of multiple venous thrombosis in veins distant from the site of a malignant growth remains obscure. The pathologic picture of this thrombophlebitis is indistinguishable from that which occurs following surgery and other prolonged illnesses, where stasis plays the major role. Marked inflammatory changes are found occasionally, but usually the inflammation is of a low degree. Moderate fever usually accompanies the thromboses. The term "thrombophlebitis" is probably more proper than "phlebothrombosis" in this syndrome.

This type of venous thrombosis is not related to pressure imposed by a tumor mass, to direct invasion of tumor cells, to general cachexia or debility, to dehydration, or to congestive failure with stasis. Many cases have been given thorough pathologic study, but tumor cells have not been demonstrated in or near the veins.

It appears, then, that the etiology of this condition lies in some alteration of the clotting mechanism itself. The exact nature of this alteration is not known, but several interesting theories have been suggested and deserve investigation. Involvement of the liver probably cannot be incriminated, because this syndrome may occur when no hepatic metastases can be demonstrated, and may not occur in other conditions such as primary carcinoma of the liver, or hepatic abscess.

Sproul[3a] cites many bits of evidence which indicate that a definite relationship exists between malignancy and the coagulation of blood, and that coagulation is enhanced in patients with carcinoma. Because of this general tendency to a decrease in the clotting time, Bock and Rausche have offered a method of testing the coagulation power of blood as an aid in the diagnosis of cancer[3a].

Differential Diagnosis

The problem of differential diagnosis is not an easy one. When migratory thrombophlebitis occurs, it is first necessary to eliminate the usual causes of thrombophlebitis due to stasis. The presence of masses, sources of pressure on the veins, varices, blood dyscrasias, and the like must be ruled out by a careful history, physical examination, and laboratory studies. Before the diagnosis of idiopathic thrombophlebitis is made, thromboangiitis obliterans and visceral carcinoma must also be excluded[3b].

The thrombophlebitis which results from thromboangiitis obliterans and that which is associated with visceral carcinoma closely resemble each other. The former condition is more common in younger persons who almost invariably use tobacco, and the migrating thrombophlebitis which it produces is not as rapid in its progression nor as extensive as that associated with carcinoma. The arteries may or may not be involved at the time the patient is seen, but biopsy of a vein often shows a characteristic pathologic picture[3b]. An additional helpful diagnostic point in thromboangiitis is the difference in the arterial blood pressure between the two arms or two legs.

So-called idiopathic thrombophlebitis migrans usually occurs between the ages of 25 and 50 years, the average age being about 40. It affects men about three times as commonly as women, and occurs in otherwise healthy adults[4]. A clear cut clinical differentiation between this condition and thrombophlebitis associated with visceral carcinoma is impossible unless the malignant process can be demonstrated.

A review of the laboratory data available in the reported cases of thrombophlebitis associated with carcinoma reveals no constant abnormality, and none that appears to be of specific value. These data include determinations of the sedimentation rate, bleeding time, clotting time and prothrombin time, platelet counts, and liver function studies.

Treatment

Treatment of thrombophlebitis associated with carcinoma is unsatisfactory. The usual procedure of anticoagulant therapy, the administration of drugs to block the sympathetic nervous system, and venous ligation should be used according to the physician's judgment, for the danger of death from pulmonary embolism is real. Edwards[3h] has stated that treatment is secondary in importance to the search for the responsible neoplasm, and suggests the employment of all diagnostic procedures which might be useful, even to the extent of exploratory laparotomy, if necessary. Obviously, the pancreas, lung, stomach, and gallbladder should be investigated.

The occurrence of this syndrome is apparently not dependent on the presence of metastases. Surgical removal of the tumor before metastases appear will prevent the occurrence of the syndrome, but it is not known whether this will effect a cure after the migratory thrombophlebitis has begun.

Summary

The syndrome of migratory thrombophlebitis associated with carcinoma is discussed, and the available case reports of this syndrome are tabulated.

Four new cases are added, bringing to 56 the total reported to date. Two of these patients had adenocarcinoma of the lung proven to autopsy; one had adenocarcinoma of the stomach proven at operation; and one had metastatic adenocarcinoma of the ribs proven by biopsy, the primary site being undetermined. One of the patients with carcinoma of the lung presented a rather unusual manifestation of thrombophlebitis—that of priapism.

The most common sites of visceral carcinoma associated with migratory thrombophlebitis are, in order of frequency, the body and tail of the pancreas, the lung, the stomach, and the gallbladder.

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OPERATIVE ASPECTS OF FEMALE STERILITY

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From the surgeon's point of view, at least three aspects of the problem of female sterility deserve consideration: (1) the necessity for preserving fertility, if possible, when necessary abdominal operations are performed on girls and young women; (2) the undesirability of treating infertility by surgical means without ascertaining the cause of the condition; (3) the occasional value of operative techniques for the relief of sterility in a few carefully studied patients.

The Necessity for Preserving Fertility

In performing abdominal operations, surgeons are apt to forget the future desires of their female patients for children. During laparotomy it would be well for the surgeon always to ask himself what effect the removal of any particular structure might have on the patient's future ability to bear children.

Read before the First General Session, Medical Society of the State of North Carolina, Pinehurst, May 2, 1950.

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Unwarranted Operations for Infertility

In our study of more than 500 childless couples[1], we have encountered many cases in which operative procedures have been performed without any effort to determine the true cause or causes of the couple's infertility. A recent example is a case in which the wife, after a casual pelvic examination had been performed, was advised that a uterine suspension would probably relieve her infertility. This procedure was done, but when we saw her four years later she was still childless, and still had a retroverted uterus. Upon complete examination of the couple, it was found that the husband had azoospermia as a result of partial bilateral testicular atrophy following mumps orchitis.

We cannot censure too strongly this practice of resorting to surgery as a panacea for infertility. The condition is seldom relieved by suspension of the uterus, dilatation and curettage, insertion of a stem pessary, or removal of physiologic cysts of the ovary. The effects of uterine displacements usually can be overcome by changes in coital technique, not by suspension of the uterus. In the patient with a normal menstrual history, curettage gives no information that cannot be obtained by endometrial biopsy, which is an office procedure. In patients with true cervical stenosis, repeated dilatations in the office are far better than a traumatic dilatation performed under anesthesia. Fortunately, in modern practice the stem pessary has been relegated to the museum, where it properly belongs. There is seldom any justification for removing an asymptomatic, slightly enlarged ovary in a young woman. Most functional ovarian cysts will disappear under observation. There is little reason to believe that a "prolapsed" ovary functions any less well than an ovary in its normal position.

The Occasional Value of Operative Techniques in Suitable Cases

Under what conditions should the operative treatment of female infertility be considered? An absolute prerequisite is adequate assay of the husband[2]. This should include, as a minimum, a complete history, physical examination, and seminal examination. If the husband's fertility is found to be unimpaired, it must be remembered that surgical procedures can be of no value in a woman who is not ovulating. A complete evaluation of the wife's history, together with a physical examination, pelvic examination, postcoital test, tubal test, endometrial biopsy, and basal temperature record[3], is necessary to avoid useless operations.

Chronic cervicitis and endocervicitis, tubal occlusion, endometriosis, and uterine myomas are the usual indications for operative intervention.

Cervicitis

Most patients with severe chronic cervicitis and endocervicitis will have repeatedly negative postcoital examinations. When the lesion is not too extensive, cauterization may be of some value. In other cases we have resorted to conization of the cervix with good results. However, cervical surgery is not the complete answer to the problem of the patient with negative postcoital examinations. A normal hormonal balance is also necessary, and the test must be performed at the proper time in the menstrual cycle.

Endometriosis

Endometriosis is not an uncommon finding in sterile women, although the exact relationship between the two conditions is not well understood. Many young women have become pregnant following conservative surgical treatment of their endometriosis[4]. This approach consists in the removal of as many implants as possible, with the preservation of as much normal ovarian tissue as possible. An operation should not be done in these cases, however, unless all the other factors which reduce fertility in the couple have been resolved.

Uterine myomas

When the survey of a childless couple is completely negative except for the presence of uterine myomas, myomectomy may be considered. Myomas are probably much more important in causing early abortion than as a cause of infertility. However, the patient who has repeated miscarriages is sterile as far as the final result is concerned.

Tubal occlusion

In some couples the only fertility-reducing factor is occlusion of the fallopian tubes. That many obstructions are relieved by the tubal test itself is proved by the pregnancies which have occurred following this procedure. The Rubin's test, or carbon dioxide insufflation of the tubes, is the procedure usually done to evaluate tubal patency. *The results of this test should be interpreted only on the basis of positive manometric changes or the roentgenographic demonstra-*

tion of air beneath the diaphragm, and not by subjective means. In our opinion, hysterosalpingography is a more definitive method, as it not only assays tubal patency but gives exact information concerning the site of obstruction, if any is present. The fractional injection of a contrast medium with repeated spot films, is not as satisfactory a method as injection of the material under direct fluoroscopic vision. This latter method more accurately determines the site of obstruction, permits the use of a minimum amount of contrast medium, and greatly reduces the possibility of venous injection.

In patients with proven tubal occlusion, repeated tubal tests with either of the previously mentioned techniques may be employed. It is probably best not to do more than one tubal test a month, and always to perform the test three to seven days after the complete cessation of uterine bleeding. When cornual obstruction is present, one is probably not justified in repeating the procedure more than three times unless there is evidence of progress in relieving this obstruction. It is our practice to re-evaluate the site of the obstruction, if it is still present, by hysterosalpingography immediately following the second or third carbon dioxide insufflation.

In patients who have an obstruction of the tubes distal to the cornua, the plan of treatment varies with the circumstances. One is not justified in doing repeated Rubin's tests in patients with hydrosalpinx, as these may increase tubal congestion or precipitate an acute inflammatory process. Furthermore, there is very little possibility of creating enough pressure to open such a tube. In other patients with isthmic and fimbrial obstruction *one is justified in repeating tubal tests as long as progress is being made.* It must be remembered that one cannot hope to relieve unilateral obstruction, regardless of its site, by tubal tests. Their effects depend solely upon the artificial increase of intraluminal pressure, a[illegible] where one tube is patent it is difficult, if not impossible, to produce pressure changes in the closed tube.

When tubal tests offer no further hope of improvement, one may consider the advisability of an operative approach to the tubal obstruction. Not all of these patients are candidates for plastic procedures. The necessary general requirements, in addition to complete normalcy of the husband, are (1) that the patient be a good operative risk; (2) that she have a better than average psychosomatic outlook; (3) that both husband and wife have a thorough understanding of the problems involved and of the low percentage of success.

Cornual occlusion, for obvious anatomic reasons, is more difficult to approach surgically. Following reinsertion of the fallopian tube into the uterus, the thick uterine musculature and the scarring which results from uncontrollable minute hemorrhages tend to reduce the lumen of the tube. Greenhill[5], following a comprehensive evaluation of operative results in tubal plastic procedures, reported that less than 4.4 per cent of the operations were followed by pregnancy — one baby for every 22.5 operations. There is some reason to believe that newer techniques[6], aimed at the prevention of scarring, may lead to better results. Metal tubes, catheters, wires, and plugs have been used. More recently we have used polyethylene tubing threaded through to the cervix. This is removed after a period of two to three months. In our series, the prognosis for pregnancy is still poor.

In hydrosalpinx, the chief problem is not the restoration of patency, *but the impossibility of restoring normal ciliary action or peristaltic movements destroyed by infection.* The usual procedure involves removing the diseased portion of the tube and doing a circumcision type of plastic procedure on the proximal end, if possible. Another technique[7] leaves the tube *in situ* and opens a semicircular window in the tube close to the ovary. It is particularly important in this group of patients to be certain there is no active infection in the pelvis, since the incidence of subsequent ectopic pregnancy is high.

The technical problems are simpler in patients with uncomplicated isthmic and fimbrial occlusion. The procedure of choice depends upon the site of obstruction and the etiologic factors. The exact site of obstruction can be determined at the operating table under direct visualization by injecting air into the uterus and the tubes from below. This procedure allows for the utilization of as much patent tube as possible, and minimizes the blind probing which leads to further trauma and the possible creation of false passages.

Some writers have recommended the implantation of ovarian tissue in the uterine

wall when the fallopian tubes are totally destroyed. The extremely low incidence of subsequent pregnancies, together with the major postoperative complications such as chronic pain, menstrual disturbances, and the likelihood of uterine rupture during pregnancy (should this occur), is enough to condemn the procedure.

Summary

In performing abdominal operations on girls and young women, the surgeon should take every precaution to avoid any trauma of the procreative functions.

An operation should not be offered as a panacea for sterility without an investigation of the entire complicated problem. Operative technics may relieve sterility in a few well-chosen patients, but even in these cases the prognosis is poor.

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Causes of Fear Among Obstetric Patients—The experiences of life over the years reveal that most of the fears which beset everyone from time to time are needless. Many years of obstetric practice convince me that one of the most important accomplishments of the obstetrician is his ability so to guide his parturient patient through her antepartum period that she shall approach the time of her delivery unafraid, rather "as one who wraps the drapery of his couch about him and lies down to pleasant dreams." The practice of the obstetric art requires much time and infinite patience, and thrice blest is he who has been so fortunate as to have also had precious training and experience in clinical psychiatry. It might be well to require that a certain amount of the time of the obstetric and gynecologic residency be given to this branch of medical study as is done in pathology in relation to the specialty.—Bloss, J. R.: Causes of Fear Among Obstetric Patients, J.A.M.A., 144: 1358 (Dec.) 1950.

Among the 410 persons who died from tuberculosis in Minnesota in 1949, 259 were 50 years or older, of whom 129 were 65 years or over. Apparently the tubercle bacillus is making its last stand in old men. Of the 259 persons of 50 years or older who died in 1949, only 72 (27.8 per cent) were women. J. Arthur Myers, M.D., Journal-Lancet, April, 1950.

THE PROBLEM OF INFECTIOUS DISEASES IN EARLY PREGNANCY AS A CAUSE OF CONGENITAL MALFORMATIONS

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During July and August, 1940, a severe epidemic of rubella occurred in New South Wales, Australia. The usual number of cases of rubella occurring annually among school children in that state fluctuates from 200 to 3,000. In 1940, however, 30,000 children were absent from school because of German measles[1]. Dr. McAlister Gregg[2] reported that an unusual number of congenital cataracts appeared in Sidney, Australia, in the first half of 1941. A maternal history of rubella during pregnancy was obtained in 68 out of 78 cases, and he suggested this to be the responsible etiologic factor[2].

This observation has stimulated others to report their findings, and much information has been accumulated on this subject. Among other maternal diseases which have been frequently mentioned as a cause of congenital malformations are the following: measles, mumps, scarlet fever, influenza, chickenpox, herpes zoster, poliomyelitis, infectious mononucleosis, toxoplasmosis, and syphilis[3]. The present study is concerned primarily with rubella, since this disease has received the most publicity.

The Incidence and Severity of Congenital Defects Following Rubella in Pregnancy

In order to implicate any infectious disease occurring in pregnancy as a cause of subsequent congenital malformations, certain epidemiologic studies are necessary. As a result of problems involved in the diagnosis and reporting of such cases, follow-up is difficult. Several types of investigations have been made in an effort to determine the incidence of anomalies following maternal rubella. One method is to seek out congenitally malformed infants and determine

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Table 1

Maternal Infectious Diseases Believed to Cause Congenital Malformations
(Based on Replies Received from Fifty-Four Medical Schools)

Disease	Number of Replies Listing It
Rubella	38
Any virus infection	6
Mumps	2
Infectious mononucleosis	2
Measles (morbilli)	1
Chickenpox	1
Toxoplasmosis	1

whether there is a history of a maternal infectious disease during pregnancy. This is essentially the pattern of the Australian surveys[1,4]. In another type of investigation, all reported cases of rubella have been classified, and questionnaires have been sent to women of childbearing age. Those reporting that the disease occurred during pregnancy were then questioned further. This type of investigation[5] has been carried out in limited geographic areas.

The results of each type of survey differ considerably, and each has certain weaknesses. Some investigators have reported the incidence of malformations following maternal rubella in the first trimester to be as high as 88 per cent[3b], while others report an incidence of 33.3 per cent[5d]. It is possible that some of this discrepancy may be attributed to a variation in virulence among different strains of the virus. However, all surveys show that the incidence of congenital malformations is higher if the disease occurs in the first trimester of pregnancy.

Another consideration besides the actual incidence of these anomalies is the character and degree of malformation present. In some cases, the defects have been listed as severe feeding problems, delayed eruption of teeth, or delay in sitting, walking, and speaking. Many of these problems could be considered as not too serious. However, other malformations, such as major cardiac abnormalities, microcephaly, microphthalmia, bilateral cataracts, severe deafness, and mental retardation, must be regarded with great concern.

Where the Responsibility Lies

It apparently has not been definitely established where the responsibility lies for the management of this problem. Probably many branches of medical science will contribute a share. Such problems as the collection of adequate and sufficient data regarding infectious diseases and the development of immunization procedures against such diseases will remain in the field of preventive medicine. Every physician concerned with infectious diseases will contribute by adequately reporting conditions which were formerly considered to be merely a nuisance, such as rubella. The obstetrician's opportunity to contribute his share arrives the moment one of his patients contracts an infectious disease in early pregnancy. Pediatricians, dentists, oculists, cardiologists, and others can participate in determining the extent of the resulting malformation and in carrying out such procedures as may be necessary in their management. Those who are engaged in research may have the opportunity to use information regarding this problem as a step toward determining the causes of other developmental anomalies.

Table 2

Policies of the Fifty-Four Medical Schools Regarding the Management of a Patient Acquiring Rubella in Early Pregnancy

Policy	Number of Schools
Conservative	25
Offer therapeutic abortion	11
Recommend therapeutic abortion	9
No policy	9

Results of a Survey Among Medical Schools

Being particularly interested in the responsibility of the obstetrician in the management of this problem, we have sought opinions from the obstetric departments in seventy medical schools throughout the United States. The heads of these departments were asked to list the infectious diseases occurring during pregnancy which they considered to be the cause of congenital malformations. Fifty-four replies were received (table 1).

According to this survey, rubella occurring in early pregnancy has been accepted in a majority of medical schools to be a cause of congenital malformations. More information will be needed regarding the other diseases before they can be generally accepted as etiologic agents.

Policy of management

Another question was: What is your policy in the management of a prenatal patient with this problem? The replies are shown in table 2. Twenty-five out of fifty-four stated that conservative management was their policy. In eleven schools the situation would be explained to the patient, and therapeutic abor-

tion would be offered. We interpret this policy as being less radical than the recommendation of abortion by nine schools. Nine schools have no policy.

If the nine schools which reported "no policy" are included with the conservative group of 25, we may say that 63 per cent of the schools are not radical in their management of this problem. However, the results strongly indicate that opinion and policy are about equally divided between radical and conservative management.

In the replies to the questionnaires, the question of the legal and moral right to perform therapeutic abortion was mentioned several times. One reply advised that legal opinion should be obtained before performing a therapeutic abortion in these cases. In many states, therapeutic abortion can be performed only when the health or life of the mother is endangered by allowing the pregnancy to continue.

In this state the law is as follows: "If any person shall willfully administer to any woman, either pregnant or quick with child, or prescribe for any such woman, or advise or procure any such woman to take any medicine, drug or other substance whatever, or shall use or employ any instrument or other means with intent thereby to destroy such child, unless the same shall be necessary to preserve the life of the mother, he shall be guilty of a felony, and shall be imprisoned in the state's prison for not less than one year nor more than ten years, and be fined at the discretion of the court."(6)

Summary and Conclusion

Since 1941, when infectious disease in early pregnancy was first mentioned as a cause of congenital malformations, many observers have reported findings indicating that these earlier observations were correct. However, the data accumulated in later years seem to indicate that the incidence of malformations following such diseases may be somewhat less than was previously suspected.

In an attempt to clarify the role of the obstetrician in the management of this problem, a survey was made among the obstetric departments of 70 medical schools in the United States. Replies received from 54 schools indicated that in most instances maternal rubella occurring in the first trimester of pregnancy is accepted as a cause of congenital anomalies. Policies for the management of these cases are about equally divided between conservative and radical methods. It is evident that those who believe therapeutic abortion to be justified consider the problem as a serious one which must be treated as such to avoid the great tragedy of a living defective child, with all its psychologic, sociologic, and economic problems. The question of the legal and the moral right to perform therapeutic abortion is raised. It is evident that much more data must be accumulated before a universally accepted policy will come forth.

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Discussion

Dr. A. H. London, Jr. (Durham): Since Gregg's report on the association of congenital cataracts and rubella occurring in early pregnancy, practically all of the virus diseases have been incriminated as causes of congenital malformations. Defects which are known to be hereditary, or which represent only slow development, have been attributed to virus infections during pregnancy. In considering malformations which may have been caused by infections during pregnancy, it is well to consider only those defects in the so-called "rubella syndrome"—that is, cataracts, deafness, mental retardation, microcephaly, and congenital heart disease. Usually at least two of these are found in the same child.

The American Academy of Pediatrics formed a committee for the study of congenital malformations and their relationship to maternal rubella and other infections. This committee was headed by Dr. Herbert C. Miller of Kansas City, and its report was published in **Pediatrics** in February, 1950. Two tables taken from this report are of interest:

Table 1
Incidence of Defective Infants Following Maternal Rubella

	Cases of Rubella	Defective Infants	
		No.	Percent.
Total	331	68	20
First trimester	110	41	37

Table 1 shows the incidence of defective infants following maternal rubella as summarized from collected reports. You will notice that where rubella occurred in the first trimester of pregnancy, 37 per cent of the infants were defective.

Table 2
Incidence of Defective Infants Following Maternal Infections in Early Pregnancy

Maternal Infection	Exposed Infants	Defective Infants
Rubeola	13	4
Epidemic parotitis	24	6
Varicella	7	1
Infectious mononucleosis	6	3
Poliomyelitis	36	2
Total	86	16

Table 2 shows the incidence of defective infants born of mothers who had infections other than rubella in early pregnancy. Of particular interest and possible significance is the high percentage (50 per cent) of defective infants born of mothers who had infectious mononucleosis in early pregnancy.

Despite the data collected, it is still not clear and certain that infections other than rubella play a definite, causative role in the congenital malformations. It is to be hoped that more accurate collection of data—particularly collection of data from clinics and obstetricians, who are now acutely aware of this problem and are making careful records of infections occurring during the first trimester—may eventually determine just exactly what part these various infections play.

The peak of epidemics of rubella usually occur in late winter and early spring. Pandemics of rubella usually occur about every eight to ten years. It is clear that children often escape rubella, and that the incidence of rubella in young adults is high. We have no known preventive for rubella. These facts suggest certain long-range prophylactic measures:

1. Expose female children to rubella before the childbearing age.
2. Avoid pregnancy in late winter and early spring months, particularly in pandemic years.
3. Continue efforts to develop an active immunizing agent against rubella.

Dr. Richard B. Dunn (Greensboro): If a patient asked us to perform an abortion because she had had rubella in early pregnancy, I wonder how many of us would agree. Fortunately, such cases are rare. If the problem were facing me now, I would in all fairness to the patient answer her question by saying that measles can cause congenital abnormalities. But unless she insisted on an abortion I would feel that she should continue her pregnancy. As soon as an article on the subject gets into **Good Housekeeping**, or the **Woman's Home Companion**, I suppose all of us will have the question asked of us.

I congratulate the authors for presenting this paper, and I heartily agree with them that more time is needed before the problem can be completely evaluated.

Dr. Hilton D. Haines (Rockingham): I would like to ask whether there is any possibility that a virus infection in the father at the time of conception could cause a congenital malformation. I have recently seen two children—one a Mongolian idiot and another with an ano-vaginal fistula—whose mothers had no history of infection during pregnancy. In both cases, however, we were able to establish the fact that conception took place while the husbands were sick with virus pneumonia.

So far as I know, this aspect of the problem has received no consideration.

Dr. Davis: Studies by Hotchkiss and McLeod on acute infectious diseases—not virus diseases—have shown that the effect on male fertility is not manifested for a period of four to six weeks. Unless the husband had had the infectious disease four to six weeks prior to conception, I doubt that it would have any effect on the product of conception.

MEASLES ENCEPHALITIS

Report of a Case Following Adequate Therapy with Globulin

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Many years ago it was discovered that measles could be modified or temporarily prevented by a transfusion of whole blood from individuals who had recovered from an attack of measles. Later it was proved that the placenta and the serum contained measles antibodies, and that 25 or more cm. of immune plasma would provide temporary passive immunity against rubeola[1]. Within recent years gamma globulin has been found to possess the antibodies that reflect the immune state in a concentration 25 times greater than normal human plasma[2]. Small volumes of this material can be given for the modification of measles. In one series gamma globulin provided complete protection for 79 per cent of exposed patients; modified measles appeared in 21 per cent, and regular measles in none of these given adequate dosages. In the control group 83 per cent developed typical cases of measles, many with complications[3].

Immune serum globulin (human), given in a dose of 3.0 to 3.7 mg. per pound of body weight within the first six to eight days of the incubation period, will modify a case of measles. When complete protection is desired, approximately five times as much should be given early in the incubation period. This passive immunity usually lasts only four weeks, and the dose must be repeated if complete protection is desired and renewed exposure is likely[4].

Report of Case

A 19 month old white girl, weighing 25 pounds, was exposed to measles on March 25, 1949, and was given 87.5 mg. of gamma globulin (human) on April 1, 1949. Mild respiratory symptoms developed, and during the night of April 10 a fine maculopapular rash appeared on the back of her neck and on her abdomen. She was not complaining, and except for the rash appeared perfectly healthy. During the entire day of April 11 the child played normally and happily, and the rash did not progress in intensity.

At approximately 9:30 p.m. that night, while she was lying awake in bed, her father noted that she suddenly became quiet. She was seen to be unconscious and cyanotic, and appeared to be having a convulsion. On examination her temperature (rectal)was found to be 102 F. Her respirations were stertorous and shallow, and at times seemed as if they were going to stop. She was unconscious and moderately cyanotic. A mild measles rash was present on her abdomen, neck, and face. Her head and eyes were turned to the right, and there was nystagmus to the right. The neck was not stiff. Foamy saliva oozed from her mouth.

Generalized fibrillary muscle tremors were present throughout, while the right arm and leg showed gross clonic movements. The right arm and leg were spastic, and resisted passive movement more than the left. Tendon reflexes on this side of body were slightly exaggerated; otherwise, reflexes were normal. The only other positive finding was moderate abdominal distention.

The past medical history was not contributory. She was the second child, and had been delivered without difficulty after a normal labor. She had been immunized against diphtheria, pertussis and tetanus, and had scabies and the usual number of respiratory infections.

At 10:45 p.m. on April 11 she was admitted to the hospital. Laboratory studies revealed a white blood cell count of 6,800, with 50 per cent polymorphonuclear cells and 50 per cent lymphocytes, and a red cell count of 4,600,000, with a hemoglobin of 75 per cent; platelets were plentiful. An uncatheterized specimen of urine showed an acid reaction, a specific gravity of 1.028, no albumin, sugar or red blood cells, and 5 pus cells per low power field. The spinal fluid on the night of admission was very slightly opalescent and under no increase in pressure. Globulins were normal, and no organisms were seen on direct smear nor on a forty-eight hour culture; however, the fluid contained 140 cells, mostly lymphocytes.

Nembutal suppositories were given to control the convulsions and to reduce the spasticity of the entire body. Streptomycin (0.05 Gm.) was given by hypodermic every four hours. By the next morning (April 12) the measles rash was florid, although the patient seemed better. There were no convulsions, contractions or rigidity. The temperature fell rapidly, reaching normal at 8 p.m. All this day the child played in her crib and seemed to be hungry, although she was more somnolent than usual and made many aimless movements. There was some incoordination. Reflexes were normal. Six cubic centimeters (840 mg.) of gamma globulin were given hypodermically twelve hours after admission.

On the second hospital day another spinal tap was performed. The fluid, which was under no increased pressure, contained 3 lymphocytes and 90 mg. of sugar per 100 cc. The temperature remained normal, and the rash had faded appreciably. Her general appearance was brighter and more normal. Urinalysis was negative.

The patient was discharged from the hospital on the third hospital day, apparently completely well. She was seen ten days later, and on this examination was entirely normal. According to the mother, there have been no sequelae.

Comment

Nervous symptoms occur in about 0.5 per cent of all cases of measles[5], although the incidence seems to be increasing in recent years[6]. These nervous symptoms usually appear on the fourth to the sixth day when the rash has begun to fade and the fever has fallen, but the onset may occur at the height of the fever, as in this case. All types of symptoms are produced, depending on the location of the encephalitis. The prognosis for survival is fair, the mortality being 10 to to 20 per cent[7]. However, many survivors show permanent nervous symptoms and mental defects.

During the past several years many reports in the literature, on the treatment and prophylaxis of measles with the globulins[8],

and many reports of measles complications[9] have appeared, but I am unable to find a report of attenuated encephalitis following a prophylactic dose of gamma globulin. Although uncommon, measles encephalitis is extremely serious. I feel that the mildness of this complication in the case reported can be attributed to adequate globulin therapy. If so, modification of measles by this method is justified in all cases.

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Delay in Diagnosis.—One definite cause of delay in the recognition of serious psychiatric disorders seems to be the present departmentalization of medical practice which often permits the patient to go from specialist to specialist without adequate opportunity for anyone to survey his total reaction. The gynecologist, for example, is apt to look only at the genital somatic manifestations or dysfunctions of what may be a far reaching disorder of the entire organism. The cardiologist is likely to pay attention to those complaints within his own field, and the otolaryngologist may feel that he has adequately discharged his obligation to the patient if he says whether or not the patient's presenting symptoms may be attributed to a disorder of those particular portions of the anatomy which he is best qualified to explore. The patient frequently steers himself from office to office and has such respect for the narrowness of the particular specialist's field that he is apt to offer only those symptoms which he feels would interest the physician. Somewhere in the process there should be an opportunity to discover that the patient is encountering difficulties in the total functioning of his personality, but that is not always the case and the chance for early treatment may be lost. Sometimes the source of the difficulty lies in over-concern with laboratory findings and a too easy reliance upon them. This occasionally permits the patient to go through the diagnostic mill merely accumulating laboratory data without recognition of his real problem.—Charles W. Miller, Jr.: The Recognition of Major Psychiatric Disorders by the General Physician, Memphis M.J. 25:138 (September) 1950.

TECHNIQUE FOR THE ADMINISTRATION OF TOPICAL ANESTHESIA IN ENDOSCOPY

MILTON R. HIMALSTEIN, M.D.

OTEEN

My interest in the subject of topical anesthesia began when one death and several reactions due to topical anesthesia occurred at the Oteen Veterans Hospital. According to Seevers[1], "There are probably more deaths from local anesthetics than from any other single class of compounds in common use today."

After perusing the literature, sending questionnaires to the members of the American Broncho-Esophagological Association, and trying various techniques (drugs singly and in combination), and drug concentrations, we modified our procedure at Oteen. This modification was based on the following conclusions, which are taken from a paper published in 1949[2].

"1. The controlling factors in the development of toxic reactions are total dosage of drug and length of time consumed in applying that dose. Safety can best be attained by using the least amount of the most dilute solution of the least toxic drug compatible with efficient anesthesia.

"2. Cocaine is the drug of choice. Pontocaine has acquired a certain popularity. It was ostensibly developed in the search for a less toxic substitute for cocaine. Pontocaine is, however, more toxic than cocaine, a more active allergen, and more locally irritating. It is, however, cheaper than cocaine . ."

The procedure which I feel most nearly approaches the ideal from the standpoint of both safety and efficiency is described in detail below. This procedure was developed as a result of our experience in administering 4,493 anesthetics for endoscopic procedures performed at Oteen since 1946. Since it was adopted, we have not had a single reaction to topical anesthesia.

Description of technique

We found that a 2 per cent cocaine spray was sufficient to lessen the pharyngeal reflex and relax the aditus laryngis. By accurate measurement of the drug solution, before and after spraying, it was found that the average patient required 2 cc. of this solution. A maximum of 4 cc. was used for the

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From the Department of Medicine and Surgery, Veterans Administration, Oteen, North Carolina.

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more sensitive and apprehensive patients. The average amount used in more than 100 cases in which accurate measurements were made was 2.3 cc. It was found that residents had been giving an initial dose of 4 to 6 cc.

Our technique is as follows: A Devilbiss number 127 atomizer is used, as this allows the bottle and bulb to be operated with one hand, leaving the other hand free to hold the tongue initially, and later the laryngeal mirror. Maximum compression of the bulb is avoided until the spray burst can be directed into the aditus under mirror visual control. The patient is advised not to swallow the sprayed material, but to clear his throat and expectorate all excess solution. The soft palate and posterior pharyngeal wall are given several weak bursts in one application. The atomizer tip is then bent to an angle of approximately 90 degrees, and several weak bursts are directed toward the posterior surface of the epiglottis. The patient should now tolerate the presence of the mirror. Under mirror control, repeated weak applications are directed behind the epiglottis until the aryepiglottic muscle fibers relax and a direct view of the glottis is obtained. Several heavy bursts are then directed toward the glottis.

The only sure way of knowing how much solution is used in the above procedure is to measure and record the actual amount used in each case for many cases. Since the patient will spray his own pharynx by coughing, it is drug-sparing to use only weak pharyngeal bursts.

It is now time to instill cocaine directly into the larynx with a syringe and cannula. We use a 3 cc. syringe, to which is attached a malleable silver eustachian catheter. The cannula is so bent for each case as to allow delivery of the solution into the larynx, avoiding contact between the cannula and the epiglottis. A total of 2 cc. of a 5 per cent solution of cocaine is delivered. The solution is instilled a single drop at a time. Most patients will cough with the first few drops (as they will after pyriform sinus applications of 10 per cent cocaine). The patient is advised to refrain from coughing as long as possible after each application. In the average case, the last 0.5 cc. can be instilled without making the patient cough. In a sensitive patient, it is wise to hold the cannula in place for several seconds after an instillation, in order to fortify the patient's conscious control of the cough reflex.

Conclusion

The aim of this procedure is to obtain efficient anesthesia with a minimum of drug base, and consequently with a maximum of safety. A prolonged period of application is essential to slow absorption. In brief, to produce efficient, yet safe, anesthesia we must get the most anesthesia available out of each drop of solution.

The Mayer Committee[3] recommended 0.1 Gm. (1.5 grains) of cocaine base as a safe dose. Our average dose is 0.16 Gm. (2.34 grains). For the pyriform application technique[2] (which employs 5 cc. of 10 per cent cocaine as a maximum) we used 0.56 Gm. (8.35 grains). We know that the average amount used in the country as a whole is much larger.

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New Medical Film Productions

Three new films in the medical field are announced by Sturgis-Grant Productions, Inc., 314 East 46th Street, New York 17, N. Y., producers of medical films and filmstrips. All three are 16 mm., color and sound.

"The Male Sex Hormone," second of a series on endocrinology which this company has produced for Schering Corporation, Bloomfield, N. J., presents the physiology and the clinical aspects concerned with hormone interaction in the male. Running time is twenty-four minutes. Like its predecessor, "The Physiology of Normal Menstruation," the film will be available to medical schools and colleges throughout the country. Application should be made to: Medical Service Department, Schering Corporation, 2 Broad Street, Bloomfield, N. J.

"The Bone Bank" shows how a bank for the preservation of bone by refrigeration is organized, how such bone is used, and the advantages of this procedure. Philip D. Wilson, M.D., Surgeon-in-Chief, the Hospital for Special Surgery, New York City, directed the production of this film, which is intended for orthopedic surgeons and hospitals.

"From One Cell" is a biology film for high school and college students. In simple terms it explains the normal process of cell division and human development and its relation to cancer growth. The aim of the film is to clarify the biological processes involved and to interest students in cancer research. The American Cancer Society, sponsor of the film, is distributing prints to educational institutions throughout the country by means of its sixty-one local chapters. Running time is thirteen minutes.

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MALIK VS. MALIK

The name Malik in connection with the United Nations at once calls to mind the Russian, Jacob Malik. There is, however, another U.N. delegate with the same surname, but who differs as much in his ideology from Jacob Malik as black does from white. He is Charles Habib Malik from Lebanon, a Christian Arab who was formerly professor of philosophy at the American University in Beirut. *Time* for January 29 publishes excerpts from a recent address of his, first published in the *Christian Century*, in which he makes a remarkably clear-cut distinction between Communism and Christianity. "Communism," he points out, "is not only a total doctrine . . . at variance with the deepest persuasions of the West; it is . . . a total state . . . absolutely determined to spread its outlook, its system, its power, throughout the world . . . by force and subversion and every conceivable subtlety.

"Communists usually offer only one aspect of their teachings to a group or an individual . . . These various aspects of Communism are offered as a bait, cunningly prepared to suit the victim."

Charles Malik believes that the only way to secure lasting peace is "to create those stubborn and irreducible facts which will force Communism *to change itself* and to live at peace with the rest of the world." He then enumerates four orders of such facts which must be created: the balance of power, the balance of justice, the balance of mind, and the balance of spirit.

The most important task in securing the balance of power in the Far East, he believes, is the independence of China. In Europe it was necessary not only to achieve military balance of power, but also to create in the European spirit "an absolute faith in its values and a determined will to fight for them."

In discussing the balance of justice, he says: "There are appalling conditions of privation and poverty throughout Asia and many other portions of the world. So long as Moscow means, truly or falsely, hope for the masses, and the Western world does not mean so with the same clarity, it is idle to speak of . . . live-and-let-live.

"The balance of mind," he continues, "requires that there be some equality in the accessibility to truth and information between the countries of the Iron Curtain and the rest of the world . . . There can be no peace until . . . there is equal intellectual and social intercourse between the Communist and the non-Communist worlds . . ."

The balance of spirit is, Mr. Malik thinks, the most important task of all. His address closes with a ringing challenge to the non-Communist nations, especially the Western nations, to elevate their ideals of living:

"The Western world . . . trusts far more in gadgets and in the manipulation of the emotions than in the truth and potency of ideas. . . . The ideal of taking a college degree, getting married and settled, rearing a family, having a dependable job, making lots of money and having a solid and ever expanding bank account—this ideal conceived purely in these terms is not good enough. It is . . . a very timid ideal . . . Confronted with this ideal alone, Asia—if I must be frank with you—is not impressed. In fact, despite all her darkness and misery, Asia can still do better. An Asian who knows something of the West's highest values . . . can turn to the West and say, 'You can do better also.' "

GORGAS AND MAGNUSON

One of the most fascinating biographies recently published is that of General William C. Gorgas, entitled *Physician to the World.* The book should appeal particularly to North Carolinians, since its author, Mr. John M. Gibson, was born in Scotland County of this state. It should be of interest to all medical men just now, because the recent ousting of Dr. Paul Magnuson as medical director of the Veterans Administration by General Carl Gray, Jr., recalls the unhappy experience of Dr. Gorgas as chief sanitary officer of Panama, as told so vividly by Mr. Gibson.

After Gorgas had succeeded in ridding Havana of yellow fever by eradicating the *Stegomyia* mosquito — later named *Aëdes aegypti*—he was commissioned to rid Panama of the same disease and so make possible the construction of the Panama Canal. Here he had to work under the domination of the Canal Commission, composed of seven nonmedical men—a retired rear admiral, a retired major general, and five civil engineers. Although an Army medical board headed by Dr. Walter Reed, working with Dr. Carlos Finlay and Dr. Gorgas, had proved conclusively that yellow fever was transmitted by one species of mosquito, the bureaucrats on the Canal Commission refused to believe it, and would not allow the men or the money for screening buildings, installing sewer systems or taking other measures that had been so effective in Havana. One official spoke for them all when he said, "It's silly to spend all that money just to kill a few mosquitoes."

Literally thousands of lives were sacrificed to the stupidity and stubbornness of the medically ignorant lay members of the commission, to the interminable red tape of bureaucracy, and to the fear on the part of local politicians that enforcing regulations for the control of mosquitoes might cost votes in the next election.

Fortunately for the country, the American Medical Association came to the rescue by sending the chairman of its legislative committee, Dr. Charles A. L. Reed, to Panama for a first-hand investigation. Dr. Reed's report, submitted to the American Medical Association and to Secretary of War William H. Taft, was a terrific indictment of the stupidity, arrogance, and indifference to human life which had been manifested by the members of the Commission. Salient features of the report were published in newspapers all over the country. Soon afterwards Dr. William H. Welch and Dr. Alexander Lambert got the ear of President Theodore Roosevelt, and the resignations of the seven members of the Canal Commission were asked for and received.

It is difficult for laymen to understand why doctors do not want to work under nonmedical men. The experiences of Dr. Gorgas and, more recently, of Dr. Magnuson should help explain this reluctance.

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* * *

A BRITISH APPRAISAL OF THE NATIONAL HEALTH SERVICE

In the first year of the British National Health Service the *British Medical Journal*—the official organ of the British Medical Association—was accused of being too favorable to the Service. There was an understandable disposition to give the Minister of Health a chance to make the thing work, if possible, and to make the best of what was admittedly a bad bargain. Now, however, after two and a half years of the National Health Service, the editor of the *Journal* is completely disillusioned, and apparently has given up hope of making the scheme succeed. In the *British Medical Journal* for December 2, 1950, the leading editorial, entitled "A Failing Policy," is worthy of quoting at some length.

"The people of this country must face the fact that the National Health Service is heading for bankruptcy . . .

"We cannot escape the conclusion that the failure of the Minister of Health to provide a fully comprehensive health service, and to fulfill his obligations to the medical profession, lies in the economic mess that has come from appearing to promise the people of this country something for nothing. It is difficult to see how the National Health Service can be put on a sound footing and the full resources of modern medicine be at the disposal of the public without considerable readjustment of its economy. The medical profession is discontented and disillusioned, not because of payment, or lack of it, for this or that, but because it sees postponed indefinitely the opportunities for improving the medical care of people . . .

"Just in what direction is the National Health Service leading? The outside observer, ignoring our capacity—which one day might be exhausted—for muddling through, would be justified in saying, 'For the bankruptcy court.' Not only are we facing bankruptcy because of the Utopian finances of the Welfare State. We are, as a profession, facing the bankruptcy of a policy, a policy based on the decisions of the Coalition Government during a war for survival and put into execution by a Minister of Health who could not resist the temptation to behave like a Fairy Godmother to an impoverished nation . . .

" . . . The general practitioner has been promised greater opportunities in the hospital life of the country: what has happened at Kingston is fitting comment on this. As to payment, a new deal was promised in the shape of the Spens Committee's recommendations, which advocated a spread of income adjusted to the current value of money, among certain proportions of general practitioners. Now, two and a half years after the appointed day of July 5, 1948, this adjustment is still the subject of miscalculation, postponement, and evasion by the Minister of Health . . .

"The Minister of Health faces the bankruptcy of a policy in the consultant as well as in the general medical services. And what must astound the historian of the future is the failure in what is termed a 'Health Service' to enlarge and encourage the Public Health Service, the members of which have perhaps had the hardest knock of all.

" . . . The honeymoon period of the Welfare State is over. The uneasy marriage between the medical profession and the State is now undergoing the strains of an unbalanced domestic economy . . . the public has run riot in the chemist's shop—at what a cost it is only just beginning to discover. The shocking waste of public money over the inessentials of medicine has left little over for what is more urgently needed . . ."

* * *

DR. PAUL ALLISON YODER

Dr. Paul A. Yoder literally died in harness, on February 12, 1951. Although he had been forced by a previous illness to resign as superintendent of the Forsyth County Tuberculosis Sanatorium, he continued to serve in an advisory capacity, and to the very end gave too generously of his strength and professional skill in helping carry on the work of the institution. He was examining a patient when the final summons came, in the form of a cerebral accident which was mercifully quick and painless.

Dr. Yoder was born in Hickory, North Carolina, March 9, 1895; was graduated with the A.B. degree from Lenoir College in 1916; served in the first World War from October, 1917, to January, 1919; was graduated from the University of Pennsylvania School of Medicine in 1923, having taken his first two years in medicine at the University of North Carolina; was intern at Bryn Mawr Hospital 1923-1924; was staff physician at the North Carolina Sanatorium 1924-1929; and was superintendent and medical director of the Forsyth County Sanatorium from its beginning in November, 1929, until December, 1949. In 1941 he was made an assistant professor of clinical medicine at Bowman Gray School of Medicine of Wake Forest College.

Dr. Yoder was secretary of the Forsyth County Medical Society from 1934 to 1942, and president in 1947. He was a member of the State Medical Society, the American Medical Association, the Southern Medical Association, the North Carolina Tuberculosis Association (which he served as president in 1938-1940) and the National Tuberculosis Association. In 1937 he became a Fellow of the American College of Physicians.

The list of Dr. Yoder's achievements attests to his professional ability, but does not begin to tell of Paul Yoder, the warm, lovable man that his friends and his patients knew him to be. Indeed, his patients were his friends, as were countless relatives of his patients. He worked far longer hours than were demanded by his job, and did many things beyond the call of duty. Patients were never mere cases to him, but human beings who were sick and who needed help; and he never considered his own comfort or convenience when he had an opportunity to render service.

In 1926 he married Miss Evelyn Dale, who was a nurse in training when he was an intern at Bryn Mawr. She was a real helpmeet in every sense of the word. Together they made the Forsyth County Sanatorium a haven of refuge.

As the *Winston-Salem Journal* said editorially on February 14: "Dr. Yoder will continue to live in the lives of the many former tuberculosis patients he has helped restore to health, and his influence will be felt in the thousands of other lives which have benefited indirectly from his work, his research, study and writings."

* * *

DR. ROBERT R. GARVEY

On Thursday, February 22, Dr. Robert R. Garvey of Winston-Salem slipped away as quietly and unostentatiously as he had lived. He was a splendid example of the family doctor who became a specialist without ever forgetting what he had learned in general practice. His life was also a lesson in courage. During the past ten years he was badly crippled by arthritis, but even when suffering himself he never lost his cheerful smile or his sympathetic manner. He kept at work as long as he was able, and never burdened his friends or patients with complaints. He will be missed by all who came in contact with him.

Committees and Organizations

NORTH CAROLINA STATE BOARD OF MEDICAL EXAMINERS

MEDICAL PRACTICE ACT

Art. 1. Practice of Medicine.

§ 90-1. North Carolina medical society incorporated.—The association of regularly graduated physicians, calling themselves the state medical society, is hereby declared to be a body politic and corporate, to be known and distinguished by the name of The Medical Society of the State of North Carolina. (Rev., s. 4491; Code, s. 3121; 1858-9, c. 258, s. 1; C. S. 6605.)

§ 90-2. Board of examiners.—In order to properly regulate the practice of medicine and surgery, there shall be established a board of regularly graduated physicians, to be known by the title of The Board of Medical Examiners of the State of North Carolina, which shall consist of seven regularly graduated physicians. (Rev., s. 4492; Code, s. 3123; 1858-9, c. 258, ss. 3, 4; Ex. Sess. 1921, c. 44, s. 1; C. S. 6606.)

§ 90-3. Medical society appoints board.—The medical society shall have power to appoint the board of medical examiners. (Rev., s. 4493; Code, s. 3126; 1858-9, c. 258, s. 9; C. S. 6607.)

§ 90-4. Board elects officers and fills vacancies.—The board of medical examiners is authorized to elect all such officers and to frame all such by-laws as may be necessary, and in the event of any vacancy by death, resignation, or otherwise, of any member of said board, the board, or a quorum thereof, is empowered to fill such vacancy. (Rev., s. 4494; Code, s. 3128; 1858-9, c. 258, s. 11; C. S. 6608.)

§ 90-5. Meetings of board.—The board of medical examiners may assemble once in every year in the city of Raleigh, and shall remain in session from day to day until all applicants who may present themselves for examination within the first two days of this meeting have been examined and disposed of; other meetings in each year may be held at some suitable point in the state if deemed advisable. (Rev., s. 4495; 1915, c. 220, s. 1; 1935, c. 363; C. S. 6609.)

§ 90-6. Regulations governing applicants for license, examinations, etc.—The board of medical examiners is empowered to prescribe such regulations as it may deem proper, governing applicants for license, admission to examinations, the conduct of applicants during examinations, and the conduct of examinations proper. (1921, c. 47, s. 5; Ex. Sess. 1921, c. 44, s. 2; C. S. 6610.)

§ 90-7. Bond of secretary.—The secretary of the board of medical examiners shall give bond with good surety, to the president of the board, for the safe-keeping and proper payment of all moneys that may come into his hands. (Rev., s. 4497; Code, s. 3134; 1858-9, c. 258, s. 17; C. S. 6611.)

§ 90-8. Officers may swear applicants and summon witnesses.—The president and secretary of the board of medical examiners of this state shall have power to administer oaths to all persons who may apply for examination before the board, or to any other persons deemed necessary in conection with performing the duties of the board as imposed by law. The board shall have power to summon any witnesses deemed necessary to testify under oath in connection with any cause to be heard before it; or to summon any licentiate against whom charges are preferred in writing, and the failure of the licentiate, against whom charges are preferred, to appear at the stated time and place to answer to the charges, after due notice or summons has been served in writing, shall be deemed a waiver of his right to said hearing, as provided in § 90-14. (1913, c. 20, s. 7; Ex. Sess. 1921, c. 44, s. 3; C. S. 6612.)

§ 90-9. Examination for license; scope; conditions and prerequisites.—It shall be the duty of the board of medical examiners to examine for license to practice medicine or surgery, or any of the branches thereof, every applicant who complies with the following provisions: He shall, before he is admitted to examination, satisfy the board that he has an academic education equal to the entrance requirements of the University of North Carolina, or furnish a certificate from the superintendent of public instruction of the county that he has passed an examination upon his literary attainments to meet the requirements of entrance in the regular course of the state university. He shall exhibit a diploma or furnish satisfactory proof of graduation from a medical college in good standing requiring an attendance of not less than four years, and supplying such facilities for clinical and scientific instruction as shall meet the approval of the board; but the requirement of four years attendance at a school shall not apply to those graduating prior to January the first, nineteen hundred.

The examination shall cover the following branches of medical science: anatomy, embryology, histology, physiology, pathology, bacteriology, surgery, pediatrics, medical hygiene, chemistry, pharmacy, materia medica, therapeutics, obstetrics, gynecology, and the practice of medicine.

If on such examination the applicant is found competent, the board shall grant him a license authorizing him to practice medicine or surgery or any of the branches thereof.

Five members of the board shall constitute a quorum, and four of those present shall be agreed as to the qualifications of the applicant. (Rev., s. 4498; 1913, c. 20, ss. 2, 3, 6; 1921, c. 47, s. 1; C. S. 6613.)

§ 90-10. Two examinations, preliminary and final, allowed.—It shall be the duty of the state board of medical examiners to examine any applicant for license to practice medicine on the subjects of anatomy, histology, physiology, bacteriology, embryology, pathology, medical hygiene, and chemistry, upon his furnishing satisfactory evidence from a medical school in good standing, and supplying such facilities for anatomical and laboratory instruction as shall meet with the approval of the board, that he has completed the course of study in the school upon the subjects mentioned. The board shall set to the credit of such applicant upon its record books the grade made by him upon the examination, which shall stand to the credit of such applicant; and when he has subsequently completed the full course in medicine and presents a diploma of graduation from a medical college in good standing, requiring a four years course of study of medicine for graduation, and when he has completed the examination upon the further branches of medicine, to wit, pharmacy, materia medica, therapeutics, obstetrics, gynecology, pediatrics, practice of medicine and surgery, he shall have accounted to his credit the grade made upon the former examination, and if then upon such completed examination he be found competent, said board shall grant him a license to practice medicine and surgery, and any of the branches thereof. (1921, c. 47, s. 2; Ex. Sess. 1921, c. 44, s. 4; C. S. 6614.)

§ 90-11. Qualification of applicant for license.—Every person making application for a license to practice medicine or surgery in the state shall be not less than twenty-one years of age, and of good moral character, before any license can be granted by the board of medical examiners: Provided, that

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the age requirement shall not apply to students taking the examinations of the first two years in medicine. (1921, c. 47, s. 3; Ex. Sess. 1921, c. 44, s. 5; C. S. 6615.)

§ 90-12. Limited license.—The board may, whenever in its opinion the conditions of the locality where the applicant resides are such as to render it advisable, make such modifications of the requirements of the preceding sections, both as to application for examination and examination for license, as in its judgment the interests of the people living in that locality may demand, and may issue to such applicant a special license, to be entitled a "Limited License", authorizing the holder thereof to practice medicine and surgery within the limits only of the districts specifically described therein. The holder of the limited license practicing medicine or surgery beyond the boundaries of the district as laid down in said license shall be guilty of a misdemeanor, and upon conviction shall be fined not less than twenty-five dollars nor more than fifty dollars for each and every offense; and the board is empowered to revoke such limited license, in its discretion, after due notice. The clerk of the superior court, in registering the holder of a limited license, shall copy upon the certificate of registration and upon his record the description of the district given in the license. (1909, c. 218, s. 1; C. S. 6616.)

§ 90-13. When license without examination allowed.—The board of medical examiners shall in their discretion issue a license to any applicant to practice medicine and surgery in this state without examination if said applicant exhibits a diploma or satisfactory proof of graduation from a medical college in good standing, requiring an attendance of not less than four years and a license issued to him to practice medicine and surgery by the board of medical examiners of another state. (1907, c. 890; 1913, c. 20, s. 3; C. S. 6617.)

§ 90-14. Board may rescind license.—The board shall have the power to revoke and rescind any license granted by it, when, after due notice and hearing, it shall find that any physician licensed by it has been guilty of grossly immoral conduct, or of producing or attempting to produce a criminal abortion, or, by false and fraudulent representations, has obtained or attempted to obtain, practice in his profession, or is habitually addicted to the use of morphine, cocaine or other narcotic drugs, or has by false or fraudulent representations of his professional skill obtained, or attempted to obtain, money or anything of value, or has advertised or held himself out under a name other than his own, or has advertised or publicly professed to treat human ailments under a system or school of treatment or practice other than that for which he holds a license, or is guilty of any fraud or deceit by which he was admitted to practice, or has been guilty of any unprofessional or dishonorable conduct unworthy of, and affecting, the practice of his profession, or has been convicted in any court, state or federal, of any felony or other criminal offense involving moral turpitude. Upon the hearing before said board of any charge involving a conviction of such felony or other criminal offense, a transcript of the record thereof certified by the clerk of the court in which such conviction is had, shall be sufficient evidence to justify the revocation or rescinding of such license. The findings and action of said board shall, in all such cases and hearings, be final and conclusive. And, for any of the above reasons, the said board of medical examiners may refuse to issue a license to an applicant. The said board of medical examiners may, in its discretion, restore a license so revoked and rescinded, upon due notice being given and hearing had, and satisfactory evidence produced of reformation of the licentiate. (1921, c. 47, s. 4; Ex. Sess. 1921, c. 44, s. 6; 1933, c. 32; C. S. 6618.)

§ 90-15. License fee; salaries, fees, and expenses of board.—Each applicant for examinations shall pay to the treasurer of the board of medical examiners of the state of North Carolina a fee of fifteen dollars ($15) before being admitted to the examination: Provided, however, that in the case of applicants taking the examinations in two halves, as provided in § 90-10, the fee shall be seven and one-half dollars ($7.50) for each of the two half examinations. Whenever any license is granted without examination, as authorized in § 90-13, the applicant shall pay to the treasurer of the board a fee of fifty dollars ($50). Whenever a limited license is granted, as provided in § 90-12, the person shall pay to the treasurer of the board a fee of fifteen dollars ($15). A fee of five dollars ($5) shall be paid for each duplicate license. All fees shall be paid in advance to the treasurer of the board of medical examiners of the state of North Carolina, to be by him held as a fund for the use of said board. The compensation and expenses of the members and officers of said board, and all expenses proper and necessary in the opinion of said board, to the discharge of its duties under and to enforce the laws regulating the practice of medicine or surgery shall be paid out of such funds, upon the warrant of the president and secretary of said board. The salaries and fees of the officers and members of the said board shall be fixed by the board, but shall not exceed ten dollars ($10) per day per member, and railroad fare and hotel expenses; and no expense shall be created to exceed the income from fees herein provided. Any unexpended sum or sums of money remaining in the treasury of the said board at the expiration of the terms of office of the members thereof, shall be paid over to their successors after their election and qualification as such. (Rev., s. 4501; Code, s. 3130; 1858-9, c. 258, s. 13; 1913, c. 20, ss. 4, 5; 1921, c. 47, s. 5; Ex. Sess. 1921, c. 44, s. 7; C. S. 6619.)

§ 90-16. Board to keep record; publication of names of licentiates; transcript as evidence.—The board of examiners shall keep a regular record of its proceedings in a book kept for that purpose, together with the names of the members of the board present, the names of the applicants for license, and other information as to its actions. The board of examiners shall cause to be entered in a separate book the name of each applicant to whom a license is issued to practice medicine or surgery, along with any information pertinent to such issuance. The board of examiners shall publish the names of those licensed in three daily newspapers published in the state of North Carolina, within thirty days after granting the same. A transcript of any such entry in the record books, or a certificate that there is not entered therein the name and proficiency or date of granting such license of a person charged with the violation of the provisions of this article, certified under the hand of the secretary and the seals of the board of medical examiners of the state of North Carolina, shall be admitted as evidence in any court of this state when it is otherwise competent. (Rev., s. 4500; Code, s. 3129; 1858-9, c. 258, s. 12; 1921, c. 47, s. 6; C. S. 6620.)

§ 90-17. Blanks furnished clerk.—It shall be the duty of the medical society of the state of North Carolina to prescribe proper form of certificates required by this article and all such blanks and forms as the clerk may need to enable him to perform his duties under this article. (Rev., s. 4505; 1889, c. 181, s. 7; 1899, c. 93, s. 4; C. S. 6621.)

§ 90-18. Practicing without license; practicing defined; penalties.—**No person shall practice medicine or surgery, or any of the branches thereof, nor in any case prescribe for the cure of diseases unless he shall have been first licensed and registered so to do in the manner provided in this article, and if**

any person shall practice medicine or surgery without being duly licensed and registered, as provided in this article, he shall not be allowed to maintain any action to collect any fee for such services. The person so practicing without license shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than fifty dollars ($50) nor more than one hundred ($100), or imprisoned at the discretion of the court for each and every offense.

Any person shall be regarded as practicing medicine or surgery within the meaning of this article who shall diagnose or attempt to diagnose, treat or attempt to treat, operate or attempt to operate on, or prescribe for or administer to, or profess to treat any human ailment, physical or mental, or any physical injury to or deformity of another person: Provided, that the following cases shall not come within the definition above recited:

1. The administration of domestic or family remedies in cases of emergency.

2. The practice of dentistry by any legally licensed dentist engaged in the practice of dentistry and dental surgery.

3. The practice of pharmacy by any legally licensed pharmacist engaged in the practice of pharmacy.

4. The practice of medicine and surgery by any surgeon or physician of the United States army, navy, or public health service in the discharge of his official duties.

5. The treatment of the sick or suffering by mental or spiritual means without the use of any drugs or other material means.

6. The practice of optometry by any legally licensed optometrist engaged in the practice of optometry.

7. The practice of midwifery by any woman who pursues the vocation of midwife.

8. The practice of chiropody by any legally licensed chiropodist when engaged in the practice of chiropody, and without the use of any drug.

9. The practice of osteopathy by any legally licensed osteopath when engaged in the practice of osteopathy as defined by law, and especially § 90-129.

10. The practice of chiropractic by any legally licensed chiropractor when engaged in the manual adjustment of the twenty-four spinal vertebrae of the human body and without the use of drugs.

11. The practice of medicine or surgery by any reputable physician or surgeon in a neighboring state coming into this state for consultation with a resident registered physician. This proviso shall not apply to physicians resident in a neighboring state and regularly practicing in this state.

12. Physicians who have a diploma from a regular medical college or were practicing medicine and surgery in this state prior to the seventh day of March, one thousand eight hundred and eighty-five, and who are properly registered as required by law.

13. Any person practicing Radiology as hereinafter defined shall be deemed to be engaged in the practice of medicine within the meaning of this article. "Radiology" shall be defined as, that method of medical practice in which demonstration and examination of the normal and abnormal structures, parts or functions of the human body are made by use of x-rays. Any person shall be regarded as engaged in the practice of Radiology who makes or offers to make, for a consideration, a demonstration or examination of a human being or a part or parts of a human body by means of fluoroscopic exhibition or by the shadow imagery registered with photographic materials and the use of x-rays; or holds himself out to diagnose or able to make or makes any interpretation or explanation by word of mouth, writing or otherwise of the meaning of such fluoroscopic or registered shadow imagery of any part of the human body by use of x-rays; or who treats any disease or condition of the human body by the application of x-rays or radium. Nothing in this subsection shall prevent the practice of Radiology by any person licensed under the provisions of Articles 2, 5, 6, and 11 of chapter 110. (Rev., ss. 3645, 4502; Code, s. 3122; 1858-9, c. 258, s. 2; 1885, c. 117, s. 2; 1885, c. 261; 1889, c. 181, ss. 1, 2; 1921, c. 47, s. 7; Ex. Sess. 1921, c. 44, s. 8; 1941, c. 163; C. S. 6622.)

§ 90-19. Practicing without registration; penalties.—Any person desiring to engage in the practice of medicine or surgery shall personally appear before the clerk of the superior court of the county in which he resides or practices, for registration as a physician or surgeon. The person so applying shall produce and exhibit before the clerk of the superior court a license obtained from the board of medical examiners of the state. The clerk shall thereupon register the date of registration, with the name and residence of such applicant, in a book to be kept for this purpose in his office marked "Register of Physicians and Surgeons," and shall issue to him a certificate of registration under the seal of the superior court of the county upon the form furnished him by the medical society of North Carolina, for which the clerk shall be entitled to collect from said applicant a fee of twenty-five cents. The person obtaining such certificate shall be entitled to practice medicine or surgery, or both, in the county where the same was obtained, and in any other county in this state; but if he shall remove his residence to another county he shall exhibit said certificate to the clerk of such other county and be registered, which registration shall be made by said clerk without fee or charge.

Any person who practices or attempts to practice medicine or surgery in this state without first having registered and obtained the certificate required in this section, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than twenty-five dollars nor more than one hundred dollars, or be imprisoned at the discretion of the court, for each and every offense: Provided, this section shall not apply to women pursuing the vocation of midwife, nor to reputable physicians or surgeons resident in a neighboring state coming into this state for consultation with a registered physician of this state. (Rev., ss. 3646, 4504; 1889, c. 181, ss. 4, 5; 1891, c. 420; Ex. Sess. 1921, c. 44, s. 9; C. S. 6623.)

§ 90-20. Clerk punishable for illegally registering physician.—If any clerk of the superior court shall register, or issue a certificate to, any person practicing medicine or surgery in any other manner than that prescribed by law, he shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than two hundred dollars and shall be removed from office. (Rev., s. 3647; 1889, c. 181, s. 6; C. S. 6624.)

§ 90-21. Certain offenses prosecuted in superior court; duties of attorney-general.—In case of the violation of the criminal provisions of §§ 90-18 to 90-20, the attorney-general of the state of North Carolina, upon complaint of the board of medical examiners of the state of North Carolina, shall investigate the charges preferred, and if in his judgment the law has been violated, he shall direct the solicitor of the district in which the offense was committed to institute a criminal action against the offending persons. A solicitor's fee of five dollars shall be allowed and collected in accordance with the provisions of § 6-12. The board of medical examiners may also employ, at their own expense, special counsel to assist the attorney-general or the solicitor.

Exclusive original jurisdiction of all criminal actions instituted for the violations of §§ 90-18 to

90-20 shall be in the superior court, the provisions of any special or local act to the contrary notwithstanding. (1915, c. 220, s. 2; C. S. 6625.)

BULLETIN BOARD

PRELIMINARY PROGRAM
of the
NINETY-SEVENTH ANNUAL SESSION
The Medical Society
of the
State of North Carolina
May 7, 8, and 9, 1951
PINEHURST, NORTH CAROLINA

Headquarters—Hotel Carolina

RESUME OF PROGRAM

SUNDAY, MAY 6, 1951

11:00 A.M.—Executive Committee Meeting (Small Card Room)
6:30 P.M.—Memorial Service
Sermon: C. Sylvester Green, Executive Vice President, Medical Foundation of North Carolina, Chapel Hill
Music: Music Department, Flora McDonald College, Directed by Dean Robert Smith, Red Springs

MONDAY, MAY 7, 1951

9:00 A.M.—Registration Booth opens (Front Lobby)
9:00 A.M.—Exhibits Open (West Porches)
2:00 P.M.—House of Delegates of Medical Society (Ballroom)
5:30 P.M.—Intermission, House of Delegates of Medical Society
6:00 P.M.—Medical College of Virginia Alumni Dinner (Crystal Room)
6:00 P.M.—Exhibits Close
8:00 P.M.—House of Delegates Reconvenes (Ballroom)
8:30 P.M.—Medical Auxiliary Program (To be announced)

TUESDAY, MAY 8, 1951

7:00 A.M.—Medical Officers Breakfast (Crystal Room)
8:00 A.M.—Registration Booth Opens (Front Lobby)
8:45 A.M.—Exhibits Open (West Porches)
9:00 A.M.—First General Session of Medical Society (Ballroom)
9:00 A.M.—Executive Board Meeting, Auxiliary to Medical Society (Pine Room)
10:00 A.M.—Annual Meeting, Auxiliary to Medical Society (Pine Room)
10:00 A.M.—Medical Advisory Committee to the N. C. Commission for the Blind (Dutch Room)
1:00 P.M.—Luncheon, Auxiliary to Medical Society (Country Club)
1:00 P.M.—Medical Alumni Luncheons (Schedule and places to be announced in official program)
2:30 P.M.—Section Meetings, Medical Society:
Section on General Practice of Medicine and Surgery (Pine Room)
Section on Pediatrics
Section on Gynecology and Obstetrics
Conjoint Program (Ballroom)
Section on Ophthalmology and Otolaryngology (Theatre)
Section on Public Health and Education (Large Card Room)
7:00 P.M.—President's Dinner (Main Dining Room)

WEDNESDAY, MAY 9, 1951

8:00 A.M.—Registration Booth Opens (Front Lobby)
9:00 A.M.—Second General Session of Medical Society (Ballroom)
10:00 A.M.—Bridge and Canasta Party, Auxiliary to Medical Society (Large Card Room)
10:30 A.M.—Elections
11:30 A.M.—Award of Golf Prizes
12:00 Noon—Recess for Conjoint Session (Ballroom)
12:20 P.M.—Reconvene—Award Exhibit Attendance Prizes (Ballroom)
12:35 P.M.—Presentation High School Essay Contest Winner
1:00 P.M.—Medical Alumni Luncheons (Schedule and places to be announced in official program)
2:30 P.M.—Second meeting of House of Delegates (Small Card Room)
2:30 P.M.—Section Meetings, Medical Society
Section on Surgery (Large Card Room)
Section on Practice of Medicine (Ballroom)
Section on Neurology and Psychiatry (Pine Room)
Section on Radiology (Theatre)
Section on Pathology (Dutch Room)
5:00 P.M.—Third General Session (Ballroom)
Adjournment, *sine die*

PROGRAM OF THE MEDICAL SOCIETY

OFFICERS' BREAKFAST
TUESDAY, MAY 8, 1951—7:00 A.M.
(Crystal Room)

8:00 A.M.—The Legislative and Military Influence on Medicine at the National Level — Frank E. Wilson, M.D., American Medical Association Washington Office, Washington, D. C.
8:20 A.M.—Maryland's Medical Program for the Indigent — Maurice C. Pincoff, M.D., Professor of Medicine, University School of Medicine, Baltimore
8:40 A.M.—The Role of Medicine in Rural Health —Mr. Aubrey D. Gates, Field Director, Rural Health Committee, American Medical Association, University of Arkansas Extension Service, Little Rock
9:00 A.M.—Adjournment

FIRST GENERAL SESSION
TUESDAY, MAY 8

9:00 A.M.—Call to Order, Millard D. Hill, M.D., Chairman Committee on Arrangements
Invocation
Announcements
Presentation of President Roscoe Drake McMillan, M.D.
9:10 A.M.—Report of Committee on Moore County Medal:
Rowland T. Bellows, M.D., Chairman, Charlotte
William S. Dosher, M.D., Wilmington
Isaac H. Manning, Jr., M.D., Durham
9:20 A.M.—(From Section on Ophthalmology and Otolaryngology)
J. E. Prefontaine, M.D., Chairman
Eye Signs in Intracranial Diseases—Alfred N. Costner, M.D., Durham
9:40 A.M.—(From Section on General Practice of Medicine and Surgery)
Wayne J. Benton, M.D., Chairman
(Subject and speaker to be designated)
10:00 A.M.—(From Section on Pediatrics)
Charles F. Williams, M.D., Chairman
Some Problems of Premature Infants — Harry H. Gordon, M.D., Professor of Pediatrics, University of Colorado Medical School, Denver
10:20 A.M.—Address (Subject to be designated)
Elmer L. Henderson, M.D., President American Medical Association, Louisville
11:00 A.M.—(From Section on Gynecology and Obstetrics)
Robert J. Ruark, M.D., Chairman
A Simplified Modification for Staining the Vaginal Smear for Immediate Appraisal of Endocrine Activity—John P. U. McLeod, M.D., Marshville
11:20 A.M.—(From Section on Public Health and Education)
R. Eugene Fox, M.D., Chairman
The Progress of Medical Civil Defense in North Carolina—Walton W. Kitchin, M.D., Clinton

11:40 A.M.—Address (Subject to be designated)
Norvin C. Kiefer, M.D., Director National Security Resources Board, Washington, D. C.

12:10 P.M.—Presentation of Winner of High School Essay Contest

12:25 P.M.—A Medical Concept of Chronic Alcoholism — Robert Fleming, M.D., Peter Bent Brigham Hospital, Boston

12:55 P.M.—Adjournment

SECTION ON PRACTICE OF MEDICINE AND SURGERY

(Pine Room)

Tuesday, May 8—2:30 P.M.

Wayne J. Benton, M.D., Chairman, Greensboro

Ocular Problems of Interest to the General Practitioner
Winston Roberts, M.D., Bowman Gray School of Medicine, Winston-Salem

Management of Cardiac Edema
Elias S. Faison, M.D., Charlotte

Chest Pains—True or False
Robert L. McMillan, M.D., Bowman Gray School of Medicine, Winston-Salem

Black Widow Spider Syndrome
L. J. Taubenhaus, M.D., Shallotte

Iatrogenic Diseases
W. M. Nicholson, M.D., Duke Hospital, Durham

Complications of Poison Ivy (**Rhus toxicodendron**) Dermatitis
G. W. Barefoot, M.D., Greensboro

The Doctor and his Taxes
Mr. Edwin Gill, U. S. Collector of Internal Revenue, Greensboro

Incomplete—(Before General Session)

SECTION ON PEDIATRICS

Charles F. Williams, M.D., Chairman, Raleigh

and

SECTION ON GYNECOLOGY AND OBSTETRICS

Robert J. Ruark, M.D., Chairman, Raleigh

(Ballroom)

A CONJOINT PROGRAM

Tuesday, May 8—2:30 P.M.

The Prophylactic Treatment of Prematurity
F. B. Carter, M.D., R. A. Ross, M.D., and Violet Turner, M.D., Duke Hospital, Durham

The Management of Labor and Delivery in the Interest of the Premature Infant
Donald L. Whitener, M.D., Bowman Gray School of Medicine, Winston-Salem

Anesthesia in Premature Labor
Ben Ogle, M.D., Raleigh

Hospital Management of Premature Infants
Angus McBryde, M.D., Durham

Evaluation of the North Carolina Premature Infant Care Program
Robert Murphy, M.D.

Some Problems of Premature Infants
Harry H. Gordon, M.D., Professor of Pediatrics, University of Colorado Medical School, Denver
(Before First General Session)

SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

(Theatre)

Tuesday, May 8—2:30 P.M.

J. Edouard Prefontaine, M.D., Chairman, Greensboro

Use of Oral Vasoconstrictors in Rhinology
John S. Gordon, M.D., Charlotte

A Resume of the Organization and Functioning of the Asheville Eye Clinic
William F. Powell, M.D., Asheville

Diseases of the Larynx: A Photographic Study
J. C. Peele, M.D., Kinston

Allergic Manifestations in Otolaryngology
J. F. McGowan, M.D., Asheville

Diseases of the Eye Lashes: Clinical Discussion
John D. Wilsey, M.D., Winston-Salem

Physiologic Management of Internal and External Nasal Deformities
Carl N. Patterson, M.D., Durham

Eye Signs in Intracranial Diseases
Alfred N. Costner, M.D., Durham
(Before First General Session)

SECTION ON PUBLIC HEALTH AND EDUCATION

(Large Card Room)

Tuesday, May 8—2:30 P.M.

Robert Eugene Fox, M.D., Chairman, Albemarle

Symposium on Medical Civil Defense Program

The Progress of Medical Civil Defense in North Carolina
W. Walton Kitchin, M.D., Chairman, Medical Society Committee on Emergency Medical Service, Clinton

Organization of Health Services in Civilian Defense
Chauncey L. Royster, M.D., Associate, Medical Society Committee on Emergency Medical Service, Raleigh
Discussant: (To be designated)

The Problems of Blood and Blood Derivatives in Emergency Medical Care
George A. Watson, M.D., Associate, Medical Society Committee on Emergency Medical Service, Durham
Discussant: (To be designated)

Public Health Aspects of Civil Defense
C. P. Stevick, M.D., State Epidemiologist, Division of Epidemiology, State Board of Health, Raleigh
Discussant: (To be designated)

General Discussion of Problem

PRESIDENT'S DINNER

(Main Dining Room)

Tuesday, May 8, 1951

7:00 P.M.—Banquet
Toastmaster—Paul F. Whitaker, M.D., Kinston
Invocation
Reverend Marshall Scott Woodson, President, Flora McDonald College, Red Springs

7:40 P.M.—Presentation of Guests

7:50 P.M.—Address: "Your Business and Mine"
President Roscoe Drake McMillan, Red Springs

8:30 P.M.—Presentation of President's Jewel
By James F. Robertson, M.D., Wilmington

8:40 P.M.—Address: (Title to be designated)
Howard A. Rusk, M.D., Professor and Chairman, Department of Physical Medicine and Rehabilitation, New York University — Bellevue Medical Center; Chairman, Health Resources Advisory Committee of the National Security Resources Board; and Chairman, National Advisory Committee to Federal Selective Service System

9:20 P.M.—Adjournment

10:00 to
2:00 P.M.—President's Ball

SECOND GENERAL SESSION
(Ballroom)
WEDNESDAY, MAY 9, 1951

9:00 A.M.—(From Section on Practice of Medicine)
E. E. Menefee, Jr., M.D., Chairman
Myxedema: A Frequently Overlooked Controllable Condition — George T. Harrell, M.D., Bowman Gray School of Medicine, Winston-Salem
Discussion: Ernest H. Yount, M.D.

9:20 A.M.—(From Section on Neurology and Psychiatry)
R. Charman Carroll, M.D., Chairman, Asheville
Mabel E. Goudge, M.D., Vice-Chairman, Durham
A Doctor's Contribution to the Mental Hygiene of Civilians at War—Carl A. Whitaker, M.D., Associate Professor of Psychiatry, Emory University School of Medicine, Atlanta

9:40 A.M.—(From Section on Radiology)
Walter W. Vaughan, M.D., Chairman, Durham
Some Roentgen Aspects of Abnormal Pulmonary Function—Robert P. Borden, M.D., Assistant Professor of Radiology, Graduate School of Medicine, University of Pennsylvania, Philadelphia

10:00 A.M.—(From Section on Pathology)
Thomas N. Lide, M.D., Chairman, Winston-Salem
Neoplasms of Bone and Bones—R. P. Morehead, M.D., Bowman Gray School of Medicine, Winston-Salem

10:20 A.M.—Jaundice
Philip Thorek, M.D., Clinical Assistant Professor of Surgery, University of Illinois; Associate Professor of Surgery, Cook County Graduate School of Medicine; Attending Surgeon, Cook County Hospital, Chicago

11:00 A.M.—Address: Public Relations
Mr. Edgar J. Forio, Vice President, the Coca Cola Company, Atlanta

11:30 A.M.—(From Section on Surgery)
William B. McCutcheon, Chairman, Durham
(Subject and speaker to be designated)

11:50 A.M.—Election of members to expiring terms of boards
Recess of General Session

CONJOINT SESSION
Wednesday, May 9, 1951—12:00 Noon

G. Grady Dixon, M.D., President of the State Board of Health, will preside over this meeting of the Medical Society of the State of North Carolina and the State Board of Health.

12:25 P.M.—Reconvening of Second General Session
Award of Golf and Exhibit Prizes

12:40 P.M.—Adjournment

SECTION ON SURGERY
(Large Card Room)
Wednesday, May 9, 1951—2:30 P.M.

William B. McCutcheon, Chairman, Durham

Cardiac Resuscitation — Further Observations and Review of Reported Cases
T. C. Bost, M.D., Charlotte
Discussion: John P. Kennedy, M.D., Charlotte

Enterogenous Cysts of the Cecum
F. M. Simmons Patterson, M.D., Laurinburg
Discussion: C. E. Gardner, Jr., M.D., Durham

Difficulty in Swallowing
Frank Johnston, M.D., Winston-Salem
Discussion: Julian A. Moore, M.D., Asheville

Ureterosigmoidostomy—Past and Present
H. Haynes Baird, M.D., and Hamilton W. McKay, M.D., Charlotte
Discussion: Jack Hughes, M.D., Charlotte

Diagnosis of Tumors of the Uterine Canal by Hysteroscope (Slides and Motion Pictures)
William B. Norment, M.D., Greensboro
Discussion: Roy McKnight, M.D., Charlotte

Chronic Thyroiditis
Joe M. Van Hoy, M.D., Charlotte
Discussion: Paul Kimmelstiel, M.D., Charlotte; Richard Taliaferro, M.D., Greensboro; William Shingleton, M.D., Durham

Treatment of Congenital Trachea-Esophageal Fistula
Will C. Sealey, M.D., Durham
Discussion: Paul Sanger, M.D., Charlotte

Influence of the Development of Vagotomy and of Banthine on the Surgical Treatment of Peptic Ulcer
Keith S. Grimson, M.D., and Benjamin H. Flowe, M.D., Durham
Discussion: W. B. McCutcheon, M.D., Durham; and R. D. Baxley, M.D., Siler City

SECTION ON NEUROLOGY AND PSYCHIATRY
(Pine Room)
Wednesday, May 9—2:30 P.M.

R. Charman Carroll, M.D., Medical Director Highland Hospital, Chairman, Asheville
Mabel E. Goudge, M.D., Vice Chairman, Durham
Edward N. Pleasants, M.D., Superintendent of the State Hospital, Secretary, Raleigh

Program Committee:
R. Burke Suitt, M.D., Duke University School of Medicine, Chairman, Durham
Marion M. Estes, M.D., State Hospital, Raleigh

Convening of Section and report of the Nominating Committee

Designation of Committee on Moore County Award

Election of Officers

Some Comparisons Concerning Neuropsychiatric Casualties of Recent American Wars
Colonel William E. Wilkinson, M.D., U.S. Army, Professor of Military Science and Tactics, Associate in Neuropsychiatry, Duke University School of Medicine, Durham
George Fraser Sutherland, M.D., Associate Professor of Neuropsychiatry, Duke University School of Medicine and Consultant in Neuropsychiatry, Veterans Administration Hospital, Roanoke, Virginia
Wilmer C. Betts, M.D., Captain, M.C., U.S. Army, Psychiatrist, 7th Infantry Division Korea
Lieutenant (j.g.) John S. Cook, Jr., M.D., M.C., U.S.N. (By invitation), U. S. Naval Hospital, Portsmouth, Virginia
Discussants: Leslie B. Hohman, M.D., Professor of Neuropsychiatry, Duke University School of Medicine, Durham; J. W. Roy Norton, M.D., Secretary-Treasurer and State Health Officer, State Board of Health, Raleigh

Bioelectric Correlates of Emotional States
Leonard J. Ravitz, Jr., M.D., Department of Neuropsychiatry, Duke University School of Medicine, Durham
Discussant: A. T. Miller, Ph.D., Professor of Physiology, the University of North Carolina School of Medicine, Chapel Hill

The Use of Radioisotopes for the Localization of Brain Tumors
Frank Wrenn, M.D., Post-Doctoral Fellow of the Atomic Energy Commission, Division of Neurosurgery, Duke Hospital and Duke University School of Medicine, Durham
Discussant: To be announced

Follow-Up of Pre-Frontal Lobotomies Performed by the Duke Neurosurgical Staff
Leslie B. Hohman, M.D., Professor of Neuropsychiatry, Duke University School of Medicine, Durham
Guy L. Odom, M.D., Associate Professor of Neurosurgery, Duke University School of Medicine, Durham
R. Burke Suitt, M.D., Durham, and Chairman of The Lobotomy Committee, Veterans Administration Hospital at Roanoke, Virginia
Discussant: Eben Alexander, Jr., M.D., Assistant Professor of Surgery, in charge of Neurosurgery, The Bowman Gray School of Medicine, Winston-Salem

Modernization in Delusions
Clayton R. Estwistle, Jr., M.D., United States Public Health Service Fellow in Psychiatry, Duke University School of Medicine, and Assistant Resident in Neuropsychiatry, Duke Hospital, Durham
Paul A. Walters, Jr., graduate student in Neuropsychiatry, Duke University School of Medicine, Durham—in conjunction with John P. Gillin, Ph.D., Professor of Anthropology and Research Professor in the Institute of Research in Social Science, the University of North Carolina, Chapel Hill
R. Burke Suitt, M.D., Department of Neuropsychiatry and Duke University School of Medicine, Durham
Discussant: Frederick R. Taylor, M.D., High Point, North Carolina; Professor of Medical History, Bowman Gray School of Medicine, Winston-Salem

Carbon Dioxide Therapy
George A. Silver, M.D., Associate in Neuropsychiatry, Duke University School of Medicine, Durham
Discussant: Frank G. Hall, Ph.D., Professor of Physiology and Chairman of the Department, Duke University School of Medicine, Durham

Some Notes on Emotional Immaturity
Marshall L. Fisher, M.D., Director, The Mental Hygiene Clinic, Charlotte
Discussant: To be announced

Neuropsychiatric Aspects of Atomic Warfare in Relation to Child Welfare
H. Grant Taylor, M.D., Associate Professor of Pediatrics and Bacteriology and Assistant Dean, Duke University School of Medicine, Durham, Atomic Bomb Casualty Commission
Discussant: To be announced

Pitressin Treatment of Deteriorated Schizophrenics in the State Hospital at Butner
Lorant Forizs, M.D., Assistant Medical Superintendent of the State Hospital at Butner, North Carolina; formerly Assistant Professor of Neuropsychiatry at the University of Budapest
Discussant: Robert W. Southerland, M.D., Charlotte

The Doctor's Contribution to the Mental Hygiene of Civilians at War
Carl A. Whitaker, M.D., Associate Professor of Psychiatry, Emory University School of Medicine, Atlanta
(Before the Second General Session, Wednesday, May 9)

SECTION ON RADIOLOGY

(Theatre)

Wednesday, May 9, 1951—2:30 P.M.

William W. Vaughan, M.D., Chairman, Durham

2:30 P.M.—The Roentgen Aspect of Segmental Lung Anatomy
George J. Baylin, M.D., Associate Professor of Radiology, Duke Hospital, Durham

2:50 P.M.—Bronchogenic Carcinoma as a Medical Problem
A. Derwin Cooper, M.D., Internist, Director of the Durham County Tuberculosis Sanatorium and the Watts Hospital Chest Clinic, Durham

3:10 P.M.—A New Significance of Pulmonary Necrosis
Frederick R. Gilmore, M.D., Associate Radiologist, Watts Hospital, Durham

3:30 P.M.—The Surgical Management of Carcinoma of the Lung
H. Max Schiebel, M.D., Chief of the Surgical Service, Watts Hospital, Durham
Discussion of the four papers to be opened by guest speaker, Robert P. Barden, M.D., Assistant Professor of Radiology in the Graduate School of Medicine of the University of Pennsylvania; Radiologist to the Chestnut Hill Hospital in Philadelphia

INTERMISSION

4:20 P.M.—Some Roentgen Aspects of Abnormal Pulmonary Function
Robert P. Barden, M.D., Assistant Professor of Radiology in the Graduate School of Medicine of the University of Pennsylvania; Radiologist to the Chestnut Hill Hospital in Philadelphia

SECTION ON PATHOLOGY

(Dutch Room)

Wednesday, May 9, 1951—2:30 P.M.

Thomas N. Lide, Chairman, Winston-Salem

Aspects of Bone Disease of General Interest

Development and Growth of Bone—Normal and Abnormal
Margaret Swanton, M.D., University of North Carolina, Chapel Hill

Cystic Lesions of Bone with Particular Reference to Endocrine Disfunction
Elmer E. Pautler, Jr., M.D., Bowman Gray School of Medicine, Winston-Salem

Myositis Ossificans of the Paravertebral Muscle
J. U. Gunter, M.D., Durham

Neoplasms of Bone and Bones
R. P. Morehead, M.D., Bowman Gray School of Medicine, Winston-Salem
(Before the General Session)

THIRD GENERAL SESSION

(Ballroom)

Wednesday, May 9, 1951

5:00 P.M.—Report of the House of Delegates
5:15 P.M.—Unfinished Business
5:20 P.M.—New Business
5:30 P.M.—Installation of President, President-Elect, and Vice-Presidents
5:40 P.M.—Remarks by President and President-Elect
5:50 P.M.—Adjournment **sine die**

NEWS NOTES FROM THE UNIVERSITY OF NORTH CAROLINA

Postgraduate medical courses sponsored by the University School of Medicine and the Extension Division have been arranged at North Wilkesboro and Elkin, with the Wilkes - Alleghany Counties Medical Society and the Surry - Yadkin Counties Medical Society as co-sponsors, and at Shelby, with the Cleveland County Medical Society as co-sponsor. The programs are as follows:

North Wilkesboro-Elkin

March 20—(North Wilkesboro)
- 4:00 p. m. Hematology
- 7:30 p. m. Liver and Gallbladder Diseases —Dr. Louis A. M. Krause, University of Maryland School of Medicine

March 27—(Elkin)
- 4:00 p. m. Office Gynecology
- 7:30 p. m. Emergencies in Obstetric Practice —Dr. John L. Parks, George Washington University School of Medicine

April 3—(North Wilkesboro)
- 4:00 p. m. Treatment of the Patient with Uncomplicated Diabetes in Office and Home
- 7:30 p. m. Complications of Diabetes: Their Prevention and Treatment —Dr. Alexander Marble, Boston

April 10—(Elkin)
- 4:00 p. m. Allergy
- 7:30 p. m. The Psychosomatic Approach to Allergy —Dr. Hal M. Davison, Atlanta

April 17—(North Wilkesboro)
- 4:00 p. m. Convulsive Disorders in Infants and Children
- 7:30 p. m. Highlights of Pediatric Practice —Dr. Charles F. McKhann, Cleveland

April 24—(Elkin)
- 4:00 p. m. Vascular Disease
- 7:30 p. m. The Acute Abdomen —Dr. S. F. Marshall, The Lahey Clinic

Shelby

March 21—
- 4:00 p. m. Hematology
- 7:30 p. m. Common Gastrointestinal Complaints —Dr. Louis A. M. Krause, University of Maryland School of Medicine

March 28—
- 4:00 p. m. Office Gynecology
- 7:30 p. m. Emergencies in Obstetric Practice —Dr. John L. Parks, George Washington University School of Medicine

April 4—
- 4:00 p. m. Treatment of the Patient with Uncomplicated Diabetes in Office and Home
- 7:30 p. m. Complications of Diabetes: Their Prevention and Treatment —Dr. Alexander Marble, Boston

April 11—
- 4:00 p. m. Allergy
- 7:30 p. m. The Psychosomatic Approach to Allergy —Dr. Hal M. Davison, Atlanta

April 18—
- 4:00 p. m. Convulsive Disorders in Infants and Children
- 7:30 p. m. Highlights of Pediatric Practice —Dr. Charles F. McKhann, Cleveland

April 25—
- 4:00 p. m. Vascular Disease
- 7:30 p. m. The Acute Abdomen —Dr. S. F. Marshall, The Lahey Clinic

WINSTON-SALEM HEART SYMPOSIUM

The annual Winston-Salem Heart Symposium and Clinics will be held on April 12 and 13 under sponsorship of the Winston-Salem Heart Association. Dr. Robert L. McMillan, associate professor of clinical internal medicine, Bowman Gray School of Medicine, is in charge of arrangements for the meeting.

Participants will include: Dr. Stanley Gibson, director of the department of cardiology, Children's Memorial Hospital, Chicago, and professor of pediatrics and chairman of the department, Northwestern University School of Medicine; Dr. R. Bruce Logue, director of the division of cardiology and assistant professor of medicine, Emory University, Georgia; Dr. Louis N. Katz, Michael Reese Hospital and director of the cardiovascular department of the Medical Research Institute, Chicago; Dr. E. Sterling Nichol, director of the American Heart Association, Miami; Dr. A. Carlton Ernstene, director of the division of medicine, Cleveland Clinic, Cleveland; Dr. Irving S. Page, director of research in cardiovascular diseases, Cleveland Clinic, Cleveland; Dr. Edward Weiss, professor of clinical medicine, Temple University and National Committee for Mental Hygiene, Philadelphia.

All doctors in North Carolina and nearby states are invited to attend.

NEWS NOTES FROM THE BOWMAN GRAY SCHOOL OF MEDICINE OF WAKE FOREST COLLEGE

Dr. Harold D. Green, professor of physiology and pharmacology, participated in a seminar sponsored by the department of pharmacology at the University of Pennsylvania on February 6. He discussed the merits and limitations of various flowmeter systems, with comments on applicability to specific problems.

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Dr. Ernest H. Yount, Jr., instructor in internal medicine, recently addressed the Davidson County Medical Society in Lexington on the subject of cortisone and ACTH.

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Dr. Frank R. Lock, member of the executive council of the South Atlantic Association of Obstetricians and Gynecologists, attended meetings of the organization held at Ormond Beach, Florida, on February 8, 9, and 10.

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Dr. Jerry K. Aikawa was elected to membership in the Southern Society of Clinical Research at the recent meeting held in New Orleans, Louisiana. Dr. Aikawa is research fellow in internal medicine.

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Dr. George T. Harrell, Jr., professor of internal medicine, spoke on "Medical Kidney Disease" at the meeting of the Rowan County Medical Society in Salisbury last month.

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Dr. C. C. Carpenter and Dr. H. M. Vann were elected to honorary membership in the North Carolina Gamma Chapter of Alpha Epsilon Delta at Wake Forest College recently. The organization is

a national honorary premedical society. Dr. Carpenter is medical school dean and professor of pathology, and Dr. Vann is registrar and professor of anatomy.

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Dr. David Cayer, associate professor of internal medicine, was one of the lecturers in the two-week course on radioisotopes in medicine given by the Oak Ridge Institute of Nuclear Studies at Oak Ridge, Tennessee, February 5 to 16.

Brodie C. Nalle Lecture

The second Brodie C. Nalle Lecture, sponsored by The Nalle Clinic Foundation, will be presented at the Hotel Charlotte on Friday, April 27, 1951, at 8:00 p. m. The speaker will be Dr. Samuel A. Cosgrove of Jersey City, New Jersey.

Dr. Cosgrove has been Director of the Obstetrical Service of the Jersey City Medical Center for over thirty years, and for the past twenty years has been Medical Director of the Margaret Hague Maternity Hospital. He is a Fellow of the American Medical Association, of the American Gynecological Society, and of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, also being a past president of this organization. He is also a Fellow and Governor of the American College of Surgeons, Diplomate of the American Board of Obstetrics and Gynecology, and Clinical Professor of Obstetrics, Faculty of Medicine, Columbia University.

Dr. Cosgrove's subject will be "The Clinical Management of Toxemia of Pregnancy." As he has a reputation of being an excellent teacher and lecturer, this presentation should be of great value to those physicians concerned with pre-natal care. All interested physicians are cordially invited to attend.

North Carolina Academy of General Practice

The third annual session of the North Carolina Academy of General Practice was held in Durham, March 4-6, with a meeting of the board of directors preceding the first meeting of the assembly.

Participants on the program included Dr. Reece Berryhill, Dean of the University of North Carolina Medical School, who discussed the school's program in general practice; Dr. J. M. Ruffin of the Duke University Medical School, whose subject was "An Evaluation of Liver Function Tests Including Liver Biopsy"; Dr. J. L. Callaway, also of Duke, who discussed common skin diseases; Dr. Bingham Dai of Duke, "The Relationship Between Doctor and Patient"; Dr. Lesesne Smith of Spartanburg, South Carolina, "Childhood Accidents and the Physician's Responsibility" with discussion by Dr. Jay M. Arena of Durham; Dr. Eben Alexander, Bowman Gray School of Medicine, Winston-Salem, "Diagnosis and Treatment of Painful Neurological Syndromes"; Dr. O. C. Hansen-Pruss of Duke, "Some Practical Suggestions in the Treatment of Bronchial Asthma"; Dr. Samuel Martin of Duke, "Newer Antibiotics"; Dr. Charles E. Kunkle of Duke, "Care of the Hemiplegic and Newer Drugs in the Treatment of Parkinsonism"; and Dr. R. B. Robbins, Congress of Delegates, American Academy of General Practice and vice president of the American Medical Association, who was the banquet speaker.

The program also included a round of the wards and visits to the outpatient clinics at Duke and exhibits at the Washington Duke Hotel.

Johnston County Medical Society

The Johnston County Medical Society has collected state, county, and A.M.A. dues from 100 per cent of its regular members for 1951. Of its six honorary members, only two have not paid their A.M.A. dues for the current year. All the dentists belonging to the society have paid their current dues.

Forsyth County Medical Society

Dr. R. H. Kampmeier, director of the Department of Medicine, Vanderbilt University, was speaker at a dinner meeting of the Forsyth County Medical Society held on February 13. He discussed "The Modern Aspects of the Diagnosis and Treatment of Syphilis."

Duke University Alumni Luncheon

The Duke Medical Alumni Luncheon during the meeting of the Medical Society of North Carolina will be held on Tuesday, May 8, at 1:00 p. m., at Mid Pines Club, Southern Pines. The fee is $3.00 per plate, tax and gratuity included.

Please send tentative reservations to Talmage L. Peele, M.D., Box 3811, Duke Hospital, Durham, N. C., as soon as convenient.

News Notes

Dr. H. L. Brockmann, High Point, has been appointed a member of the Council of the Southern Medical Association from North Carolina for a regular Council term of five years, beginning at the close of the annual meeting in Dallas, Texas, in November. The appointment was announced recently by the president-elect, Dr. R. J. Wilkinson of Huntington, West Virginia. Dr. Brockmann succeeds Dr. Lenox D. Baker, Durham, whose term will expire with the close of the Dallas meeting in November, and who having served the constitutional limit is not eligible for reappointment.

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Dr. Robert M. Stecher, F.A.C.P., Cleveland City Hospital, delivered a Nu Sigma Nu lecture at Duke Hospital on Thursday, March 15, on the subject of "Heredity in Rheumatic Diseases." Dr. Stecher, a former president of the American Rheumatism Association, has done original work on genetics and joint disease.

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Drs. L. C. Todd and A. D. Taylor of Charlotte have moved their offices from the Professional Building to the new Doctors' Building on Kings Drive.

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Drs. John O. Lafferty, James B. Hall, and O. D. Baxter of Charlotte have announced the association of Dr. Thomas O. Coppedge, Jr., and the removal of their office from 407 North Tryon Street to Doctors' Building, 1012 Kings Drive.

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Dr. Edward S. Bivens, Diplomate of the American Board of Radiology, has opened offices for the practice of radiology at Stanly County Hospital, Albemarle.

Tennessee State Medical Association

The annual meeting of the Tennessee State Medical Association will be held in Nashville, April 9, 10, and 11. Reservations are being made at the Maxwell House, where the sessions will take place.

American Society for the Study of Fertility

The seventh annual meeting of the American Society for the Preservation of Sterility will be held at the Ritz Carlton Hotel, Atlantic City, New Jersey, on June 9 and 10.

The Society offers an annual award of $1,000, known as the Ortho Award, for an essay on the result of some clinical or laboratory research pertinent to the field of sterility. Competition is open to those who are in clinical practice as well as to individuals whose work is restricted to research in basic fields or full-time teaching positions. Full particulars concerning the competition for the 1951 award may be obtained by addressing the Secretary of the Society, 20 Magnolia Terrace, Springfield 3, Massachusetts.

Report of the Joint Committee on Chest X-Ray

A joint committee representing the American College of Radiology and the American College of Chest Physicians met in San Francisco, June 26, 1950, and prepared the following report. On December 4, 1950, the report was approved by the Board of Regents of the American College of Chest Physicians, meeting in Cleveland, Ohio, and on February 7, 1951, by the Board of Chancellors of the American College of Radiology, meeting in Chicago, Illinois.

It is hoped that this report of two organizations concerned with mass chest x-ray surveys and routine chest x-ray examinations in general hospitals will clarify any controversial problems regarding these procedures. It is also hoped that the broad principles upon which this report has been formulated may serve as a basis for solving any local situations which may arise concerning mass chest x-ray programs or routine chest x-ray in general hospitals.

The Report

Committee of the American College of Radiology:

Leo G. Rigler, M.D., Minneapolis, Minnesota, Chairman
Sydney J. Hawley, M.D., Seattle, Washington
Russell H. Morgan, M.D., Baltimore, Maryland
E. P. Pendergrass, M.D., Philadelphia, Pennsylvania
Paul C. Swenson, M.D., Philadelphia, Pennsylvania

Committee of the American College of Chest Physicians:

Otto L. Bettag, M.D., Chicago, Illinois, Chairman
Robert J. Anderson, M.D., Washington, D. C.
Hollis E. Johnson, M.D., Nashville, Tennessee
Edward Kupka, M.D., Berkeley, California
James H. Stygall, M.D., Indianapolis, Indiana

Purpose of Joint Committee on Chest X-ray

The purpose in having a Joint Committee on Chest X-ray is that two professional organizations, who have common interests, may exchange ideas and formulate unified thinking on the problems involved in routine chest x-rays in hospitals, (general, mental, etc.) and mass chest x-ray programs. In addition to this the Committee, after considerable discussion, agreed to another point, namely: that each physician should be encouraged to have a chest x-ray on all of his patients.

Limits of Survey

For purposes of this discussion routine chest survey examinations should be defined as those examinations of the chest which are conducted on microfilm apparatus for screening normal persons from those patients with abnormal changes in the chest. The examinations are screening and are not to be considered as diagnostic procedures. Screening method is for the purpose of detecting the presence or absence of a lesion but should not be utilized for identifying the nature of the pathological process.

The 14 x 17" film is fundamentally a diagnostic tool and its use, therefore, makes the examination more than a screening procedure. Survey chest x-rays, either in hospitals or in general population, are approved as a screening device if conducted by agencies which utilize well qualified professional technical staffs and which make a sincere effort to send the positive individuals to qualified local physicians or clinics for proper follow-up. The methods of conducting these were discussed at length. These included surveys by the U. S. Public Health Services, etc. Dr. Newell reported on the San Francisco County Medical Society's plan, whereby the medical society is responsible for the surveys but the project is financed through the local tuberculosis association.

Interpretation and Report

Interpretation and reporting of medical findings is a medical matter and should bear the signature or identification of the responsible physician.

Method of Reporting

Method of reporting of chest survey studies: This is a local matter and is by prearranged agreement between the employer and the employee in industrial surveys; in other surveys is in accord with medical ethics, according to local agreement.

Type of Reporting

Type of reporting: The Committee discourages the reporting of suspicious cases as tuberculosis. It believes this to be a clinical diagnosis. The x-ray interpreter should designate the cases that require immediate follow-up as "urgent." The small film x-ray interpretation is merely an impression.

It should be emphasized that the 14 x 17" film is a diagnostic aid and the results derived therefrom are also impressions and not diagnoses. Even the larger film is but one of several examinations necessary in order to establish correct diagnosis.

Professional Compensation

The professional cost of performing routine chest examinations in hospitals: The Joint Committee believes the radiologist and/or chest physician should be compensated just as any other physician practicing his profession. The procedure is time consuming and places a definite responsibility on the radiologist or chest physician. The Committee likewise felt that in this matter the basic principle of payment is by arrangement between the physician and the hospital or agency involved. In the reading of follow-up films there should also be an individual limit to the number of films which should be read in any one day by one physician and which he should not exceed. The compensation, of course, would have to take into consideration whether the physician not only reads the film but also makes the film.

Clothing of Patients

Whether or not a screening examination can be conducted with the patient fully clothed: Since the number of lesions overlooked because of clothing (2 per cent) is considerably smaller than the normal variations of interpretation Chamberlin, etc., have demonstrated to exist in the reading of photofluorographic films, it was concluded that the examination of clothed persons was as effective a procedure as examination of the undressed persons. Since examination of the fully clothed persons is an easier procedure as compared with the examination of the undressed persons, the Committee agreed that screening examination can be conducted with the patient fully clothed.

Readers' Qualifications

Qualifications of readers in mass chest surveys: It was believed at the present time there was no practical method which could be used to evaluate the qualifications of a particular reader. Studies in this respect are being made at the present time. It is hoped that within a short period of time satisfactory testing methods will be available. The Committee therefore agreed to leave this matter open for further discussion.

Conclusion

The two Committees agreed that the bi-committee arrangement should continue and that another meeting be arranged in at least one year. In an effort to have the committees act continuously and without interruption, interim ideas should be sent to the respective chairmen and an exchange of opinions should continue during the meeting interval.

American Heart Association

Penicillin and Hormones Give New Hope Against Rheumatic Fever

The use of penicillin in preventing rheumatic fever, and the experimental treatment of the disease with the hormones ACTH and cortisone, have been described as bringing "new hope for young hearts" in a leaflet entitled "What You Should Know about Rheumatic Fever," published by the American Heart Association and its affiliates. Next to accidents, rheumatic fever and rheumatic heart disease kill or disable more school-age children than any other cause. They also affect adults, having immobilized 40,000 service men in World War II.

Early treatment of certain streptococcal nose and throat infections, which precede rheumatic fever, has been found to reduce initial attacks of the disease and has proved effective in preventing recurrences, the Heart Association leaflet states. When rheumatic fever does occur, promising and dramatic results have been obtained in the treatment of early cases with the hormones ACTH and cortisone. As a result, the American Council on Rheumatic Fever of the American Heart Association recently inaugurated a cooperative study of the effectiveness of the hormones in treating the disease.

The cooperative study of ACTH and cortisone undertaken by the Council on Rheumatic Fever is being carried out as a long-term project at six research centers in the United States, one in Canada, and five in Great Britain. The study seeks to determine whether ACTH and cortisone actually alter the course of rheumatic fever, or merely suppress the symptoms, and whether these hormones prevent rheumatic heart disease.

Individual copies of these leaflets are available free of charge from your local affiliated heart association or from the American Heart Association, 1775, Broadway, New York 19, New York.

Life Insurance Medical Research Fund

Heart disease research will receive grants totalling more than $725,000 this year from the life insurance companies of the United States and Canada, according to M. Albert Linton, President of the Life Insurance Medical Research Fund. The 1951 awards bring to nearly four million dollars the amount of money given to heart disease research by the life insurance companies since the Fund was organized in 1945. A grant of $9,450 was awarded to Duke University School of Medicine for research by Dr. Philip Handler on humoral interrelationships in renal hypertension.

Since the first grants of the Fund were made at the start of 1946, the Fund has contributed a total of over $3,940,000 in aid of research on the diseases of the heart and blood vessels. In all, 166 research programs and 165 research fellowships have been supported.

American Hearing Society

"Hearing is Priceless—Protect It!" is the theme for National Hearing Week scheduled from May 6 through May 12 under the sponsorship of the American Hearing Society, 817 14th St., N. W., Washington, D. C., in cooperation with its 115 local chapters throughout the United States. Purpose of the annual, concentrated educational campaign is to call widespread attention to the fact this nation has a hearing problem directly affecting an estimated 15 million persons with some degree of hearing loss, including three million children.

Michael Reese Hospital Postgraduate School

The Michael Reese Hospital Postgraduate School has announced the following courses during the spring of 1951: a one-week course in "Clinical Dermatology—Refresher Course in Diseases of the Skin for General Practitioners," April 2-7; a one-week course in "Surgery — Indications, Pre- and Post-Operative Care," April 9-14; a two-week course in "Recent Advances in Internal Medicine," April 30-May 12. For further information, address: Dr. Samuel Soskin, Dean, 29th Street and Ellis Avenue, Chicago 16, Illinois.

World Medical Association

The Fifth General Assembly of The World Medical Association will be held in Stockholm, Sweden, September 15 to 20, 1951, and will be followed on September 21, by a meeting of the Medical Editors of the World.

About twenty members of the United States Committee attended the Third General Assembly in London, and a large number attended the Fourth General Assembly in New York City. The World Medical Association hopes that many will be able to attend the Fifth General Assembly.

It is understood that several members are planning a trip to Europe next summer, and it is suggested that they plan, if possible, to remain for The World Medical Association meeting. Other meetings at about the same time are:

1. International Foundation for Infantile Paralysis, Copenhagen, September 3-7, 1951.
2. World Confederation for Physical Therapy, Copenhagen, September 7-8, 1951.
3. International Society for the Welfare of Cripples, Stockholm, September 10-14, 1951.

Tenth International Congress of Dermatology

(Preliminary Notice)

The Tenth International Congress of Dermatology will be held in London during the summer of 1952, under the presidency of Sir Archibald Gray.

A preliminary program will be prepared during the current year.

As a result of the disruption produced by the last war, addresses of the secretaries of certain Dermatological Societies are not available, so that all those interested are asked to communicate with Gordon B. Mitchell-Heggs, M.D., General Secretary, at the Institute of Dermatology, St. John's Hospital for Diseases of the Skin, Lisle Street, Leicester Square, London, W.C. 2.

DEPARTMENT OF THE ARMY

Army Announces Early Successes With New Intramedullary Pin

An improved technique in the Army's treatment of femur fractures has been tried out for several weeks in Tokyo Army Hospital "with uniformly satisfactory results over this short period," according to Major General R. W. Bliss, Army Surgeon General.

The new intramedullary pin eliminates the need of a cast. When inserted through the end of a fractured femur into and along most of the length of the marrow cavity, the patient can bear weight on his leg almost immediately after fracture reduction. Present Army practice, however, requires him to rest for at least two weeks. By using crutches, the patient is then able to exercise and even do light work. When the fracture has healed, an incision is made at the upper end of the femur and the pin is then withdrawn.

The adoption of the intramedullary bone pin as standard throughout the Army Medical Service must await further investigation. The experience of five or six weeks is not enough to justify standardization of the item. However, if the pin should continue to show the same good results over a reasonable length of time, it will then be considered for use throughout the Army.

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Medical Services Officers Who Desire Transfer to Another Service Must Apply Before July 9

Officers of the military medical services, Regular and Reserve, who wish to apply for transfer from one military service to another should submit requests at the earliest possible date, the Department of Defense has announced.

Authority for such transfers, provided by Public Law 779, Eighty-first Congress, expires July 9, 1951.

Officers of the Medical Corps, Dental Corps, Nurse Corps, Medical Service Corps, Veterinary Corps, and Women's Medical Specialist Corps are eligible to apply. Transfers will not be made except upon the individual officer's request and with the approval of both military departments concerned.

The law does not authorize transfer of retired officers. Commissioned warrant officers of the Navy's Hospital Corps also are excluded, since there is no counterpart for that grade in the Army or the Air Force.

Personnel transferred will be credited with Federal service already performed, for purposes of promotion, seniority and retirement, and unused leave may be transferred without loss.

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Army Medics Cataloging Research Scientists

Taking a further step in better utilization of skilled manpower, the Army Surgeon General's Office is cataloging every applicant commissioned in the Medical Corps for the purpose of finding those who have training or experience in research.

The Army Surgeon General is interested in knowing just what medical talent is available for research in clinical and investigative work, including the fields of bacteriology, chemistry, and physiology.

The Medical Research and Development Board of the Army Surgeon General's Office has prepared a special questionnaire, which is given to selected individuals after they have reported to duty at the Medical Field Service School, Fort Sam Houston, Texas, where definite assignments are made.

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Army's Need for Women Specialists Double that of Two Months Ago

To meet the Army's anticipated expansion, the Army Medical Service hopes to recruit 572 volunteer women medical specialists by June 30, the Department of the Army has announced.

Brigadier General Paul I. Robinson, chief of the Surgeon General's personnel division, said that this is more than double the anticipated need announced last November.

The 572 volunteers needed by June 30 include 247 dietitians, 179 physical therapists, and 146 occupational therapists, Colonel Vogel said. She expressed confidence that these specialists could be obtained through the cooperation of the civilian professional societies with the Army Medical Service.

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Formation of liaison teams by the U. S. Army Medical Service and the Royal Canadian Army Medical Corps to further cooperation in standardizing military medical instruction and equipment of the two armies, was announced recently by the Department of the Army. This liaison is expected to save time and money for both countries through exchange of specific information in fields in which each is an acknowledged leader. For example, Canada will receive the benefit of American experience in the field of tropical medicine, while the United States will profit from Canadian research and development in arctic medicine, without costly duplicative efforts.

FEDERAL SECURITY AGENCY

Public Health Service

Surgeon General Leonard A. Scheele of the Public Health Service, Federal Security Agency, recently emphasized the dangers of drinking unpasteurized milk and called attention to some simple methods of heat-treating milk at home in the event community supplies of pasteurized milk are not available.

The Surgeon General pointed out that there are four approved home pasteurization methods which in the great majority of cases will provide adequate safeguards against milk-borne disease. Two of the methods—which may in some instances impart a cooked flavor to the milk—are recommended primarily for emergency situations in which community milk-processing plants may be put out of commission by fire, flood, or other disasters, including bombing attacks. The other two methods, which do not affect the flavor of the milk but take a little longer or require special equipment, are suggested for normal home use where pasteurized milk is not available.

"There are too many communities in the United States where raw milk is drunk regularly despite its recognized threat to health," Dr. Scheele said.

The emergency methods recommended by the Public Health Service are:

1. Pour water into the outer unit of a double boiler and bring to a vigorous boil. Pour milk into the inner unit and place within the outer unit. Cover and maintain same heat for ten minutes.

2. Bring milk quickly to a boil in an open saucepan while stirring constantly. Immediately place saucepan in cold water and continue stirring contents until cool. Change cooling water whenever it becomes warm.

For residents of communities where there is little or no pasteurized milk, the Surgeon General recommended that raw milk purchases be pasteurized at home, either by the two emergency methods recommended for disasters, or by one of the two following methods:

1. Heat the milk quickly in an open saucepan, stirring constantly, until the contents reach a tem-

perature of 165 F. A dependable cooking thermometer should be used. Then immediately place the saucepan in cold water and continue stirring the contents until they are cool. Change the cooling water when it becomes warm.

2. Use one of the approved home pasteurizers now on the market.

"Statistics of the Public Health Service show that consumers of raw milk are the victims of most of the outbreaks of milk-borne diseases in this country," Dr. Scheele explained.

Lilly Introduces New Product

Eli Lilly and Company introduces Ampoules Quinidine Gluconate, 0.08 Gm. per cc., 10 cc. (equivalent to 0.05 Gm. of quinidine alkaloid per cc.). This product is a stable aqueous solution which can be given intramuscularly to those individuals who require the prompt effect of quinidine or to those who cannot take it orally.

The solution may be given intravenously in extreme emergencies. Intravenous injection is especially indicated for the control of cardiac irregularities, including arrhythmia, which may overtake the anesthetized patient. Such situations occur more frequently when cyclopropane gas is used and during thoracic or upper abdominal surgery. In these circumstances, the parenteral administration of quinidine is a lifesaving measure.

The vital usefulness of this preparation suggests that it be made standard emergency equipment in every operating room, as well as in doctors' bags and offices.

Armour to Build New Drug Plant at Kankakee

Plans for a modern pharmaceutical plant for The Armour Laboratories, which will provide needed facilities for production of ACTH and other hormones, enzymes, and rare drugs, have been announced by F. W. Specht, president of Armour and Company. The plant which will be located north of the town of Bradley in Kankakee county, Illinois, will be known as the Armour Pharmaceutical Center.

The new plant will be the production center for Acthar, Armour's brand of ACTH; Tryptar, an enzyme now being investigated clinically; insulin, thyroid and liver extracts, pituitary, adrenal and gonodal hormones; together with various enzymes and certain other rare drugs of which Armour is in many cases the world's only source of supply.

Classified Advertisement

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AUXILIARY

From Rachel D. Davis, M.D. of Kinston, Chairman of the Advisory Board, come timely suggestions which we as Auxiliary members can help carry out in our public relations program:

1. Our national military strength is being built up to the point that it is stimulating all other phases of life in America to extra activity, and thereby is depleting the rank and file of many groups, particularly physicians and hospital personnel.

2. Because of the high regard in which physicians are held by the average layman, it is going to be difficult for the remaining medical personnel to meet the demands made on them by the public.

3. It is now time to begin an educational program through the schools, clubs, county medical auxiliaries, and such mediums of public education as the newspapers and radios, to lead the public to the point of not demanding the attention of a physician except in cases of actual illness yet not neglecting actual illnesses; of not demanding home visit if an early office visit can be comfortably and logically substituted; of not demanding private rooms and private nurses when these are not available, while still insisting on adequate medical care; and of being willing to give up the *luxuries* to which we have become accustomed in medical care. These programs will assure the people of adequate medical care, but will encourage them to ration their medical requirements in order to insure essential medical care for everyone.

* * *

Has your Auxiliary placed framed copies of Sir Luke Fildes' *The Doctor* in local physicians' offices? Include this idea among your plans for the observance of Doctor's Day, March 30. The flower for the day is the red carnation.

* * *

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 11-14, 1951. Requests for reservations should be sent immediately to Dr. Robert A. Bradley, Chairman A.M.A. Housing Bureau, 16 Central Pier, Atlantic City, New Jersey.

BOOK REVIEWS

Brucellosis: Clinical and Subclinical. By Harold J. Harris, M.D., F.A.C.P. Ed. 2, revised and enlarged. 617 pages. Price, $10.00. New York: Paul B. Hoeber, Inc., 1950.

The increasing importance of that baffling disease, brucellosis, makes the second edition of Dr. Harris's book most timely. The author has been for years an earnest student of brucellosis, and bases his work both on an exhaustive review of the literature and on his own experience with more than 700 cases.

To no other disease as common as brucellosis can the best known aphorism of Hippocrates be more truly applied: "Experience is fallacious and judgment difficult." Dr. Harris, however, has the ability to make a difficult subject easy to grasp; and anyone who reads the book with reasonable care will almost certainly know more about brucellosis than he did before. Although a sizable volume, it is such easy reading that one forgets its bulk.

The subject is discussed in orderly fashion, beginning with etiology and taking in turn epidemiology, pathology, symptomatology, diagnosis, prognosis, treatment, and prophylaxis. Since Dr. Harris is interested in psychiatry as well as in internal medicine (as every internist should be), and since brucellosis and psychoneurosis are often confused, it is natural for him to include a chapter on psychologic studies in chronic brucellosis.

The author admits that neither the diagnosis nor the treatment of brucellosis is too satisfactory; both require seasoned clinical judgment as well as the use of the known laboratory aids. He emphasizes that a skin test should never be done before an agglutination test. The final impression is that aureomycin is now apparently the best antibiotic, but that the time-tested vaccine still has an important place in the treatment of the chronic form of the disease. While brucellosis, if untreated, may last a lifetime, Dr. Harris leaves a feeling of optimism as to its response to careful, prolonged treatment. The book underscores the importance of laws requiring pasteurization of milk and milk products —cream, butter, buttermilk, and cheese—that are offered for sale.

Of particular interest to North Carolinians is the statement (page 73) that "North Carolina, the only state accredited in measures for eradication of brucellosis in dairy cattle, had the lowest rate among human beings for the twelve-year period from 1930 to 1941—0.4 per 100,000. Rates in other states varied from 0.98 to 3.34 per 100,000." This does not mean, however, that our state is free from brucellosis, and the possibility should be considered in the diagnosis of any prolonged obscure illness. Dr. Harris's book can be recommended as an excellent textbook on the subject.

Paul Ehrlich. By Martha Marquardt, with an introduction by Sir Henry Dale. 255 pages. Price, $3.50. New York: Henry Schuman, 1951.

The old saying, "No man is a hero to his valet," might also include his secretary. If so, however, a notable exception is Miss Marquardt, who was Paul Ehrlich's secretary during the last thirteen years of his life. She has given us an excellent picture of this great man, from the vantage point of one who worked so closely with him that she learned all his mannerisms, his personal habits—such as smoking from twenty-five to fifty cigars daily—and his prejudices, as well as his capacity for infinite detail, his clarity of vision, and his tenacity of purpose. Alternating chapters are devoted to Ehrlich as a tender, loving father and grandfather, and as a scientific genius.

Although Miss Marquardt does not let her understandable affection for Ehrlich blind her to his eccentricities, she does make her readers appreciate his greatness. One of his most striking traits was his ability to inspire his associates to work with him, and so enable him to accomplish far more than he could have done alone. At the same time, however, he kept in constant touch with all that was going on in his laboratories, and assumed personal responsibility for the use of his discoveries — notably Salvarsan, which was his crowning achievement. Ehrlich's name will always be remembered for his "side chain" theory of immunity, and for his farsighted vision of chemotherapy.

Miss Marquardt's excellent biography gives us a splendid conception of Ehrlich as a warmhearted human being, as well as a great scientist.

A Syllabus of Laboratory Examinations in Clinical Diagnosis. A Critical Evaluation of Laboratory Procedures in the Study of the Patient. Edited by Thomas Hale Ham, M.D., Assistant Professor of Medicine Medical School; Associate Director, Thorndike Memorial Laboratory; Junior Visiting Physician, Boston City Hospital. 496 pages. Price, $5.00. Cambridge, Massachusetts: Harvard University Press, 1950.

Dr. Ham, who at the time of publication was assistant professor of medicine at Harvard Medical School and associate director of Thorndike Memorial Laboratory, is now on the staff of Western Reserve Medical School. There are, in addition, one hundred contributors to the book, among whom are listed most of the well known men of medicine around Boston, as well as a scattering of distinguished medical specialists from elsewhere.

The book is divided into seven sections: (1) Introduction to Laboratory Examinations; (2) Laboratory Examinations of Blood; (3) Laboratory Examinations Related to the Urinary System; (4) Laboratory Tests Related to Diseases of the Gastrointestinal Tract; (5) Special Tests Related to Infectious Diseases; (6) Special Tests Related to Diseases of Metabolism; (7) Special Tests Related to Extravascular fluids. Each section is written by one or more authorities in the field, and an excellent bibliography and many valuable charts are included.

The book is paper bound and reproduced by offset lithography, which tend to keep the cost low. It is, in the reviewer's opinion, the best book in its field, and will undoubtedly be adopted by many medical schools as a text in the course of laboratory diagnosis.

Principles and Practice of Surgery. By Jacob K. Kerman. 1378 pages. Price, $15.00. St. Louis, Missouri: C. V. Mosby Company, 1950.

The author's stated aim to correlate basic medical science with the fundamental principles of surgery forms the sound foundation on which good texts of general surgery rest. This aim seems to have been adequately achieved in this book.

The body of the text is divided into five broad categories, the first four of which concern the changes wrought in living tissues by injury, interpreted in the broadest sense of the word. Based on this concept of reaction to injury, surgically significant disease is presented as it occurs across the spectrum from known to unknown etiology. The